The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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Eberhardt	8½	8¾	South Condurrow	5	5½
East Caradon	1½	1⅝	So. Roman Gravels	8s.	10s.
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New Rosario	6s.	8s.	West Tankerville	1	1¼
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50 Chapel House, £3¼.	50 Javali, 12s. 6d.	60 St. Patrick, £1 7s. 6d.
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PROF. SMYTH'S LECTURES ON MINING—No. VII.

[BY OUR SPECIAL REPORTER.]

In my last lecture I attempted to set before you some of the leading characters of lodes, and especially those which help us to come to a conclusion as to the true character of any mass of agglomerated mineral matter set before us. We have regarded them as to the direction in which they may be expected to run, their breadth and horizontal extension, and what we know of their extension in depth, the latter being a subject on which we have at present little accurate information.

I do not propose to enter into the various theories which have been propounded by many geologists and chemists as to the means by which the ore has been introduced into the position where we now find it. The subject is interesting, and has a strong practical bearing, but it would occupy more time than we can give. I will only remind you that while some authors are inclined to regard the veins as being filled from above, as, for example, Werner and his school, another class regard them as having been filled from below. Others, again, as the late Prof. Sedgwick, held what I think is a very untenable view—that the matter has been brought in through the side, or segregated from the country. Some, again, maintain that the material must have been introduced in a fluid state from below, others by sublimation, and still others by the action of mineral waters. This last view was, I think, originally propounded by the late Gustav Bischoff, of Bonn, and fairly supported by him victoriously, at all events as regards a large portion of the lodes. Among the various theories I think we shall be led to adopt the principle advocated by Bischoff, that the substances have been introduced by the underground circulation of water containing them or some metallic compound in solution, and we know that mineral waters do contain many of the substances which are found in the veins. To show how this question of the mode of filling of the lode may be of high practical importance, let us take the case of two lodes—one filled from above, the other from below. Let them both be of the banded character I described, with the valuable material in the centre of the lode, as it frequently is. If we meet with the ore in the lode at the surface, and follow it down, we must expect, if it has been filled from above, that the deposit will be wedge-shaped, and thin off as we descend; whereas if the material has been introduced from below we may imagine the wedge point upwards, and expect our ore deposit to increase as we go down. Unfortunately, upon insufficient data, strong statements have sometimes been made on these points, especially in the prospectuses by which so many mining companies have been got up of late years. They assert that a branch of ore seen near the ground is sure to enlarge downwards, and I have seen so many similar statements with regard to a certain small district of parallel lodes that, if they were all true, the increased size of the deposits would get rid of all the other rocks of the district at a certain depth, and you would there come on a continuous mass of ore.

It does not frequently occur that a lode is observable quite by itself, and I think I may say it is notorious that if you do find a lode under such circumstances—say, a good many hundreds of yards from any other vein, and at the same time not intersected by any cross-veins, nor joined by branches, and so on—that lode is not likely to be valuable and productive; there is too great homogeneity in the ground. On the other hand, if we examine any of the principal metalliferous districts of the world, we shall find they are specially notable for the great number and variety of the veins which occur there. In such a district as that of Redruth, in Cornwall, one of the most notable in the world for this, you find from 30 to 40 lodes more or less parallel to one another. Within the space of three or four miles a great number of these have been productive; and, moreover, the ore has occurred in places which were almost opposite to each other, so as to give rise to the miners' expression, "ore against ore." In some districts—as, for example, Cardiganshire and Montgomeryshire, where the general run of the veins is east north-east and west south-west—we see some of the veins slightly deviating from this course, and running to, and forming a junction with, other veins. Now, where such a junction takes place many curious features have to be observed; and, as some of these have an important practical bearing, we shall consider them somewhat in detail, taking the simpler conditions in the present lecture, and the more complicated cases in the next. Lodes of a given character will not unfrequently be seen to join without there being anything of actual intersection of one by the other, and it is point of high importance that the position of the junction is looked to as the most likely place to yield valuable quantities of mineral. It has been recently proposed that these points of junction only should be the object of the miners' search, a mistake as palpable as the one of neglecting the junction altogether. As to many lodes which we regard as simple, there is abundant evidence to show that the ground has been opened several, sometimes many, times, and when this opening has occurred in the plane of the original lode you have not only mechanical effects, but very frequently also fresh deposits of mineral, the same mineral as before, or a different one. The opening may not have been exactly in the plane of the original lode, but may be first on one side of it and then at another—a fact very perplexing to the general miner; and where you have had several successive openings—attended, perhaps, by side movements—the phenomena become puzzling, even to more learned persons.

I may remind you again of the case before mentioned of false walls in the middle of the lode, which may be taken by careless observers for the proper wall of the lode, especially if the rock comes away somewhat easily. Additional evidence of the repeated openings of the ground, and of the sliding movements with which they have frequently been accompanied, is found in the brecciated lodes previously mentioned. Here, for example, is a specimen, showing portions of the walls of the lode cemented together by carbonate of iron and other things, and containing also broken portions of the lode itself. Another specimen shows one of these curious aggregations of zinc-blende found occasionally in the mines of the North of England, which is coated first with a kind of semi-opal, and then with fluor-spar, and subsequently to the formation of these the piece was split through the middle, and one portion moved over the other, then the fissure afterwards filled by crystals of quartz. Or, again, this specimen, from the Restormel Mine, shows a mass of that beautiful fibrous variety of the hydrous sesquioxide of iron—Göthite—broken into fragments, and cemented again by a similar material. Or this curious and interesting case from the Relistian Mine, where you have a number of pebbles, or at all events rounded masses, with brecciated fragments in parts, cemented together by chlorite, the latter often beautifully crystallised. It is sometimes observable that at the junction of these two parts there is a strong tendency for the material to be crystallised at right angles to the wall of the lode, the crystals standing out, and forming what the miner calls "comb structure;" quartz is very commonly found occupying this position, and by successive openings a number of such combs could be formed. In the western districts of Cornwall this structure is most notable; in some of the cross-courses of North Wales you have calc-spar in such combs, sometimes to the number of six or eight.

There is another feature of the lodes which has led to much argument—that which is known as "slickensides." This is what the Germans call Spiegel, because of the wonderful smooth polish it presents in many cases, resembling a looking-glass, or Harmusch, as resembling the armour of an ancient knight. For distances far exceeding the length of this theatre, the whole surface will be beautifully smooth and polished, with the exception here and there of small dull patches, which are really portions of the surface not quite even with the rest. When taken from the lead mines, in which they are especially prevalent, the surface looks like a mass of galena, but examination shows that there is merely the thinnest film of that substance. A number of different materials will give this appearance, thus you may have a film of copper pyrites, of iron pyrtes, quartz, or calcite. Some of the cobalt and nickel ores from Hungary show this, and it appears that the nature of the material through which the fissure pressure determines the character of the film. Besides the smoothness which may be looked on as a sort of polish, striæ are very commonly seen, sometimes exceedingly fine, at other times large enough to lay your arm in. There can be no doubt but that these striæ indicate the direction of a sliding and rubbing action, in which one great mass of the earth's crust has been moved against the other. Some persons regard these phenomena as due to magnetic or electric influences, but I cannot help concluding that they are merely the effect of mechanical agencies, and you may see very clearly that the direction in which the movement has taken place has been the direction of the inclination of the plane of fissure, so that, in fact, it has been a slip downwards.

The downward movement has very frequently been attended by horizontal movements, and in some interesting cases in the cross-courses the striæ may be seen to run horizontally. The ground in contact with these slickensides is in a peculiar physical condition. It was noticed by the miners of the last century that this portion of ground was in a state of tension, and that the rock was more brittle than usual. Sometimes you have only to give a cutor two with the point of a pick or hammer and large pieces will fly off, as if held together before in a strained position, to which they had been forced by great pressure. In Derbyshire and the North of England district these slickensides are very common, and we are told that formerly the men used often to get wounded if they incautiously approached the broken lode, and that they used to break down considerable masses by simply cutting carefully a groove in the rock and then fleeing to a place of safety, the mass of rock bursting assunder with a report like that of a gun. In stratified rocks, when we can identify the different beds, we can measure the amount of slip, which is exceedingly difficult to estimate in a massive rock. Somewhat similar phenomena may occur in the case of coal seams, where, in approaching troubled or faulty ground, successive "faces" of the coal occur in consequence of the propagation of the pressure in different directions; or the ordinary shale may be so compressed that its surface will present a high polish, such as you would hardly be prepared to expect from such material. That again is indicative of approach to faulty ground, and to places where it is advisable to be provided with a safety-lamp, inasmuch as it is under such conditions that fire-damp is given off. A lode passing down into the ground may receive a number of small strings from the hanging-wall, or from the lying-wall. In the former case it is apt to be noticed that the vein is apt to be richer in those parts (such was the case in the upper part of the Comstock lode), whereas in the latter case it is said that the lode is impoverished, but I am not sure whether this latter opinion is well founded. The hanging branches of the tin veins often render it profitable to work the rock for some distance. Again, on coming to a "horse" in a lode, it is not unfrequent to find a richer mass of ore at each end than is general in the rest of the lode of the horse.

We may now look briefly at the maps of two or three noted mining districts, and commence with the simplest, that of Lower Hungary. Here we have only five lodes, running pretty parallel to each other, with some which may be considered as caunters, but no cross-courses; the lodes are powerful, and from 12 to 20 ft. wide. In Cornwall we have all the series represented, right running lodes, caunters, and cross-courses. I think we cannot philosophically follow the miners who divide the lodes only according to their filling, because we may have a lode filled in one part with clay, in another with lead ore, and they classify it according to the nature of the part they happen to know. The cross-courses are themselves productive, as of lead ore in the Tamar mines, and of excellent iron ores in the district of St. Austell. Where the north and south veins intersect the general east and west ones some interesting and rare minerals have been found, as for example true silver ores, or the ores of nickel and cobalt. We must be prepared to find appearances at these junctions different from the other parts of the lode, and, therefore, must not form our opinion of the whole district from observations made only at or near the junction. It was attempted long since by Dr. Pryce to divide the lodes according to their contents, and he made 12 different divisions, but I think his grounds for division are not satisfactory. A more philosophical mode of grouping the Cornish lodes is that proposed by Mr. Carne in a paper published in the "Transactions of the Royal Geological Society of Cornwall." He attempted to classify them according to their relative ages, and his eight divisions were as follows: (1) Old east and west lodes dipping to the north; (2) east and west lodes dipping to south, both of these generally speaking contain tin; (3) east and west copper lodes; (4) caunter copper lodes; (5) ordinary cross-courses; (6) newer copper lodes and lead lodes; (7) cross flookans, difficult to distinguish from (5); (8) slides—*i.e.*, flookany veins running in the direction of the veins themselves, but which may be regarded as subsequent openings of the fissures in a direction more or less parallel to that of the original opening.

Turning next to the Freiberg district, we come to, perhaps, the best observed district in the world, with an immense number of lodes: 900 have been counted in a limited space. The main lodes run in a direction nearly N.E. and S.W., or referred to the hours of the day, as is the custom of the German miners, from 12 to 3 o'clock. These are called stahende, and contain quartz and galena, not very rich in silver. From 3 to 6 a group of lodes—morgen—which are essentially argentiferous; from 6 to 9 a group corresponding much with our Derbyshire lodes, chiefly characterised by heavy spar—spath; and, lastly, from 9 to 12 a set which from running flatter they term flache. In the Alston Moor district the differences connected with points of bearing are not so notable as in the other districts; the north and south veins, though they have many peculiarities about them, turn out to be very rich in lead ore.

ROYAL SCHOOL OF MINES.—The third annual dinner of the students of the Royal School of Mines took place on Friday, Dec. 19, at the St. James's Hall Restaurant, Piccadilly. In spite of the unavoidable absence of many who had expressed their intention of being present, the students, associates, and professors mustered to the number of nearly sixty.

NEW OIL MOTOR ENGINE.—An improved engine in which oil and common air are made to take the place of steam has been invented by Mr. BRAYTON, of New York. Attached to the engine is a can containing the oil, which is introduced by a pump into the cylinder of the engine. The oil enters a burner in the cylinder in the form of a spray. An air-pump forces air into a reservoir at the bottom of the engine, from which, through an induction pipe, it passes into the cylinder. There it comes in contact with the oil in the burner, and is instantly carbonised. The combustion, which is occasioned by simply lighting a match, results in an expansion of air at the rate of six to one, and thereby the power is produced. A little jet of air constantly passes around the induction valve opening into the burner, and keeps the flame alive when the valve is closed. The required pressure is obtained within a minute after starting, and is regulated as in an ordinary engine. The oil-engine is, therefore, always ready for use, without causing any expense to the owner when not in actual operation. The power of the engines ranges from half-a-horse to 30-horse power, and they have given satisfaction whenever used. A 5-horse engine consumes from 5 to 6 gallons of common crude petroleum per day; the consumption, however, only goes on while the engine is in use.

IMPROVED COLLIERY PLANT.—An arrangement for washing coal with water under pressure, supplied through a hose, as in auriferous gravel washing, has been patented by Mr. R. A. WILDER, of Cressona, Pennsylvania. The coal, having been dumped on the platform, is submitted to the action of the water, and the fine parts unfit for use, as well as the water, run off below the platform. In this state the men employed on the platform to assort the coal can easily distinguish the pure from the impure, and cast the latter upon the conveyor to the rear of the platform, which carries it to the dirt wagons or elevators for that purpose, while the former is separated if desired, and the lump and such sizes as it is not desired to break are thrown upon the side conveyor, which takes it directly to the loading chutes, while the rest is thrown upon the conveyors in the front of the platform and moved to the breakers. Over the breaker is a slotted pipe, which throws a thin stream of water into the breaker to lay the dust produced by breaking the coal. As the coal fall from the breaker upon the next conveyor, which delivers it to the elevator, it is struck by a forcible stream of water, steam, or compressed air from the pipe under the breaker, to assist in spreading the coal over the surface of the conveyor, and partially separate it from the slate. Along each side of the conveyor boys and men are seated to pick out impurities. At the end of the conveyor there is a thin opening under a separating plate to take out small thin pieces of slate not observed by the pickers, while the revolving rakes assist in moving the coal over this plate to the buckets of the elevator, which take the coal to the head of the chutes. A movable conveyor at the head of the elevator is used to convey and seperate the coal as conveyed from the main chutes to any number of platforms placed parallel to the trucks of the railroad.

MEASURING AIR IN MINES.

At a meeting of the Manchester Geological Society, on Tuesday, a paper "On Measuring Air in Mines" was read by Mr. J. DICKINSON, F.G.S., Her Majesty's Inspector of Mines for the district. The chair was occupied by Mr. JOHN AITKEN, and there was a large attendance of gentlemen interested in the management of mines in the district.

Mr. DICKINSON, in dealing with his subject, said that anemometers—or air-meters, as they were often called—were now in common use for measuring the velocity of air currents in mines, but 50 years ago they appeared to have been unknown. The methods of measuring air then practised were by the smoke of gunpowder or tobacco, and the regulated pace of a person by the flame of a candle, but no mechanical appliances appeared to have been in use. In 1835 an anemometer, by Prof. Whewell, was described at the meeting of the British Association in Dublin, but this was thought of too complex a character for its purpose, and no rarely simple and useful instrument appeared to have come into use for many years afterwards. Mr. Dickinson then proceeded to describe the various kinds of instruments for measuring air which had been brought out during the subsequent period, including his own well-known Dickinson anemometer, and then pointed out the errors in measurement to which the various systems would be liable. Anemometers, a mere inspection of which would enable an officer to ascertain in an instant the exact velocity of the air without having recourse to a troublesome experiment, and the making of the required corrections, had been in use for about 25 years. Of these, the only one he knew of in common use in mines was that devised by himself, and known as the Dickinson anemometer. This consisted of a light counterpoised flat fan-plate, hung upon two fine bearings, so as to be easily moved by the air current. Alongside of the fan-plate there was a quadrant graduated, and frequently the figure up to which the fan-plate was blown being the velocity of air in feet per minute. A modification of this anemometer, which he had seen fixed in the Bardsley Colliery, Ashton-under-Lyne, by Mr. G. Wild, had the counterpoise made of a balance-weight worked by a chain over a pulley. For a fixture like this the chain and weight counterpoise appeared to be an improvement, as the friction of links over the pulley induced a steadiness of the fan-plate, and enabled the average velocity to be better read in intermittent currents. Several other instruments on this principle had been brought out, and there were a number of others on the windmill principle, such as Mr. Biram's. It must not be supposed, however, that with any of these anemometers there was no difficulty in ascertaining the true velocity of the air current. It was only when the current was regular that implicit reliance conld be placed upon such instruments as the windmill anemometers. In an intermittent current the pulsations were shown plainly enough by the counterpoised fan-plate of the Dickinson anemometer, and in reading off the velocity the average of them must be taken. But with the windwill instruments the altered speeds were more difficult to detect, so much so that when the intermittence was such as might be perceived on a water-guage the average velocity was practically useless. In all intermittent currents the revolving will almost instantaneously attain the quickest speed, and being carried by the momentum with but slightly lessened velocity through the periods when the current was slow, the revolutions performed were greatly in excess of what would have resulted had the same amount of air passed at a uniform velocity. Similarly exaggerated results also occurred in the windmill anemometers when changed about, as was not uncommon in endeavouring to get an average velocity of the various parts of the space where the observations were being taken. Inaccuracy in this latter respect might, however, be avoided by having separate anemometers placed at the same time in each part of the space where the velocity varied, and assigning to each its average space. But if one instrument only be used, then an independent measurement of velocity in each part of the space where the current varied should be made, and it would have to be assumed that the current had continued uniform whilst the respective observations were being taken. The space occupied by the operator's body, especially in small air-ways, and not facing the instrument properly to the current, might also obviously render the result inaccurate. From these sources of error in the measurement of air many mistakes had apparently been made in the amount of ventilation, and when used for ascertaining the amount of power utilised by ventilating machines the percentage had been greatly exaggerated. For comparative observations of the ventilation of a mine the surest way was to place the anemometer on the same spot and under the same circumstances on each occasion. For ascertaining the actual quantity of air passing in an intermitting current the old rough and ready ways, such as the smoke of powder, or tobacco, or the flame of a candle, might still be followed with advantage where open lights were allowed; and where gunpowder and smoking were prohibited, a small balloon, filled with gas, to float in the air, and bound about from roof to floor, and side to side, as carried by the air current, was a good substitute. For steady currents, however, there was nothing so good as an anemometer. The candle could not be carried on the average of the whole current, and the smoke was found to hang where the current was slow, making it at times difficult and uncertain what portion of the arrival should be taken as indicative of the average. For measuring the pressure of air in mines an inverted glass syphon water-gauge was in common use, and the construction of several of these Mr. Dickinson proceeded to describe. In conclusion, he said that the object of his paper was to draw the attention of colliery proprietors to these intermittent currents of air in mines, and the inaccuracy of the measuring results with many of the systems now employed. Mr. Dickinson then exhibited and explained several different kinds of anemometers.

The CHAIRMAN said he was glad to find so large an attendance at the meeting, and he saw before him many gentlemen who, he believed, were to a large extent interested in collieries. He did not know of any subject which could have a greater interest and importance at the present moment than the question of the ventilation of mines. The principal object of Mr. Dickinson had been to describe the various instruments for enabling those who had the management of mines to ascertain the velocity of the currents with the view to an efficient ventilation of the workings, and whilst he should have been glad if Mr. Dickinson had given them some of the results of the application of these instruments, he felt sure that they would all appreciate the value of the paper which had just been read.

A vote of thanks having been passed to Mr. Dickinson, a discussion ensued on the paper.

Mr. THOMPSON said he was not aware that there was a standard anemometer in existence, and if there were he did not know that it was possible to take the velocity of the current in any air-way with accuracy, in consequence of the variations in the movement of the current of air as it passed along the road.

Mr. H. FLETCHER did not think it was of much importance to arrive at the exact quantity of air circulating as to know the variations from time to time.

Mr. JACOB HIGSON said it was quite true there was no standard anemometer, but there was no standard for anything until they had made one, and there were laws by which a standard in this could be formed. There was one point in the paper which had struck him, and that was with regard to the use of balloons. It was quite true that they might have calculated the distance the balloon tra-

velled in a given time, but unless they took into consideration the different turns and angles followed by the balloon they would not have a correct measurement.

Mr. FRASER said the calling attention to the errors to which the windmill type of anemometer was liable in measuring the velocity of the air currents was a most important matter in considering the quantity of air passing through a mine.

Mr. JOHN HIGSON said he had made experiments with both classes of instruments, and he thought it was possible for the Biram to be as accurate a measurer as the Dickinson. In the Biram there was the friction coming into play, and over a given period of time he had found this as accurate as the Dickinson.

Mr. FLETCHER said of the two he should prefer a whirling machine.—Mr. SMETHUST said he had made experiments with both, and found that the windmill instruments were not reliable with interrmittent currents.

Other speakers also expressed similar opinions, and—

Mr. DICKINSON in replying upon the discussion, said he had not expressed a preference for any particular instrument. He had simply given a description of each one, and told them the sources of error to which they were liable. The liability to error was pointed out in all the windmill machines, including the Robinson cups, as the momentums carried them over small variations, and this was not a record of the true velocity of the air. If in his paper he had afforded matter for reflection on this important subject to persons interested in collieries, he should have done some service.

FOREIGN MINING AND METALLURGY.

Business in copper at Paris has remained without notable change. Chilian in bars, delivered at Havre, has made 85*l.* 4s.; ditto ordinary descriptions, 84*l.*; ditto in ingots, 88*l.*; English tough cake, 87*l.*; and pure Corocoro minerals, 84*l.* per ton. At Marseilles business in copper has been very quiet, and prices have experienced scarcely any change. At Rotterdam tin has continued neglected. Banca has been held at 50¼ fls., but purchasers are only forthcoming at 50 fls., and then only for small transactions; the sale is noted at Batavia of 18,000 ingots of Billiton, at 52⅛ fls. per picul. At Havre, Banca, delivered at Havre or Paris, has made 90*l.*; Straits, delivered at Havre or Paris, 87*l.*; and English, delivered at Havre or Rouen, 86*l.* per ton. The German tin markets have been quiet. Lead has been firmly held at Paris; rough French has made 22*l.* 12s.; Spanish, 22*l.* 8s.; English, 22*l.* 8s.; and Belgian and German, 22*l.* 16s. per ton. Stolberg lead has brought 13¼ fls. at Rotterdam. The Hamburg lead market has been firm, but business has to some extent made default. Silesian zinc, delivered at Havre, has made 22*l.* 16s.; and other good marks, delivered at Havre or Paris, 26*l.* 12s. per ton. Rolled Vieille Montagne zinc continues to make 34*l.* per ton at Marseilles. There has not been much business in zinc in Germany, but prices have been well supported.

The Austro-Belgian Metallurgical Company realised in the year ending June 30, 1875, a net profit of 6578*l.*; this profit made good a loss sustained by the company in 1873-74, but it left no balance for dividend. The somewhat improved results attained last year were attributable to the more normal and satisfactory conditions under which raw materials were obtained last year. The mines belonging to the company yielded only negative results in 1874-75. The Ougrée Collieries and Blast-Furnaces Company is enabled to give its shareholders a dividend of 16s. per share for 1874-75; this result, obtained in the midst of an industrial crisis, is attributable to the careful manner in which all the operations of the company are conducted. The profits of the company during the past year, after allowing for depreciation of plant, amounted to 15,811*l.*; of this amount, however, only 7670*l.* was paid away in dividends.

The intelligence received with respect to the French iron trade is not without importance, but at the same time it can scarcely be pronounced favourable. Creusot has obtained an order for 3000 tons of steel rails, but at 8*l.* 16s. per ton free at Dinaut, and it appears to be considered that a victory upon such terms as these is more injurious than useful to the general interests of metallurgy. The Administration of the Navy at Toulon has let a contract to the Tarn-et-Garonne Company for 38 tons of rivets, but the terms are said to be very low. The report of the council of administration of the Creusot Works, which has just been issued, states that a larger business was done in 1874-5 than in 1873-4, but the profits of the year were scarcely so good in consequence of the great reduction in sale prices. The council of administration adds that, notwithstanding the severe trials to which metallurgical industry is at present exposed, the ardour of competition seems likely to involve still lower prices. The total sales effected by the Creusot Works in 1874-5 amounted to 2,412,000*l.*; in this aggregate foreign sales figured for 880,000*l.* A dividend of 2*l.* per share is to be paid for 1874-5, but half this dividend will not be distributed until June, 1876. The reserve fund stands at 172,000*l.*

The iron trade has remained depressed in Belgium. The production of iron, it appears to be generally considered, exceeds the requirements of consumption, and the only available stimulus at present is the desire of iron manufacturing firms to maintain their works in activity. A general diminution in the production can alone improve quotations, but a mutual understanding between producers in Belgium with a common object appears a matter of impossibility, Belgian producers only following for good or for evil the influences which come to them from Germany or England. M. F. Nyst, of Liége, has just obtained an order for iron required in connection with telegraphs in Switzerland; the contract was let by the Swiss Government to M. Nyst, although he had to sustain a keen competition in the matter with Belgian and German opponents. Prices for various descriptions of iron remain very variable in Belgium; there are, indeed, almost as many quotations as works. The Stenay Works, in the department of the Meuse, have just been taken over by a group of Liége industrials. M. Armand Ophouen has been appointed managing director of the new company. It is proposed to modernise the establishment, and to add a rolling-mill for fine plates.

The French coal trade has regained a little activity. Prices show firmness, but at the same time no advance in prices has been established. It appears to be thought, however, that the French coal markets will remain quiet and stationary during the winter months. It is the depression prevailing in the French iron trade which checks any upward movement which might otherwise appear in quotations. The sugar manufacturing industry of France is also threatened to some extent, not in its production, which will be very large, but in its selling prices. Under all the circumstances coal is likely to sustain itself, but nothing more. At the same time French coal-owners do not at all lose faith in the rich future reserved for the French coal basins.

The Belgian coal trade has been generally well maintained. Considerable animation still prevails in the various basins, and at some pits stocks have begun to be formed, in consequence of the insufficient supply of railway plant. Somewhat severe weather has taught a stern lesson to careless purchasers, who, although the temperature has recently risen, now insist on an immediate execution of their orders. Quotations generally remain stationary. A strike which recently commenced in the Centre basin has not yet completely terminated. At Houssu and Sars-Longchamps the working miners have refused to accept any reduction of wages. They have accordingly remained out of work, but they have not given any trouble in their respective districts. At the four pits of La Louviere and La Paix and at Haine St. Pierre working operations have been resumed. The Carabenier Colliery Company will pay, Jan. 3, a dividend of 8s. per share for 1875. The West of Mons United Collieries Company will pay, Jan. 3, a dividend of 12s. per share on account of profits realised in 1875. The North of Charleroi Collieries Company will pay, Jan. 3, a first dividend for 1875 at the rate of 1*l.* per share.

ROLLING MILLS.—Mr. IMBAY (for I. HAHN, of Pittsburg) has patented an invention which relates to mills for rolling metal beams, particularly hollow iron beams, parts of the improvements being applicable to rolling mills generally. For rolling hollow beams the heated metals is passed between welding rolls and a series of horizontal and vertical rolls, which can be slid to or from each other by screws, the vertical rolls being adjusted to oblique positions when required, and mounted by universal joints, and driven by bevil gearing. The flanges of the horizontal rolls are made to screw on the roll shafts so as to vary the width of roll, being secured by lock nuts. Mandrils are mounted between the rolls for hollow work, these being held on a rod mounted on forked bearings that can cant out of the way of the work.

MINING AND STOCK EXCHANGE NEWS OF THE WEEK.

Messrs. F. W. MANSELL and Co. (Sworn Stock and Share Brokers), Pinner's Hall, Old Broad-street, write to us as follows:—

RICHMOND CONSOLIDATED (Silver).—The short remove of sublimity from ridicule is not more remarkable than the facility with which shareholders pass from extreme hopefulness to seemingly unwarranted depression; possibly one is but the reactive result of the other. The past financial policy initiated by the board, and (be it remembered) fully approved by the shareholders in general meeting assembled, cannot now be profitably discussed, nor advantage accrue by pointing out its utter unsoundness in the conduct of a mine. Absence of adequate working capital unquestionably caused the first false step, and from it an entire recovery has not yet taken place. Richmond is not the first mine whose fair reputation has been harmed by premature eagerness of directors to recommend and the shareholders to receive dividends while yet the property was in an incipiently remunerative condition; that the vendors and promoters of Richmond—to speak mildly—allowed insufficient capital to remain in the directors' hands to enable them to work the mine at the outset advantageously cannot be denied, and had not its resources rapidly responded to development, providing capital out of its own revenue, Richmond—like many others—might have foundered on that fatal rock—want of capital. Such an extensive mine, whose produce cannot be entirely realised until some considerable time after the payment of the cost of production, imperatively needs an ample floating capital to ensure the greatest benefits to its shareholders.

In this pleasant and proper position the vendors and promoters did not place the Richmond directors, while the latter had to face shareholders clamorous for early dividends. Hence advances were obtained upon unsold bullion, paying for the accommodation heavy rates of interest, which necessarily operated perniciously in various ways more conveniently imagined than described. The most critical junction in the history of the enterprise was when Mr. Corrigan, by a stroke of characteristic boldness and foresight, averted a costly litigation that appeared to menace the existence of the company; had a sounder financial policy then been inaugurated the present disappointments would not have arisen, the mine as an investment would occupy a steadier and higher market position, and shareholders received nothing less in dividends. But, justly to their own interest, should not shareholders now consider well the actual present value of their mine, and satisfy themselves whether or not the former mistakes—if mistakes they be—have not been to a considerable extent discounted in the consequent prejudicial effect upon the market price of the stocks? The would-be alarmists do not pretend to allege the mine *per se* is without considerable value, nor that its remunerative stability has been seriously impared; the most adverse criticism has been limited to the accounts and the unsatisfactory financial condition of the company. This, we suppose, the vituperative detractors must admit is remediable—nay, has it not been already remedied? Enormous outlay—properly chargeable to capital, but paid by revenue—has been incurred in permanent improvements, extending and economising working facilities; the entire cost has been met by current revenue, and not (as is too often the case) spread over an undefined period, although for all time will the benefit be felt of the heavy and expensive works thus successfully completed.

PATELEY BRIDGE LEAD MINES AND SMELTING COMPANY.—During the past few days these shares have been quoted lower; shareholders should know that this arises from circumstances altogether unconnected with the mines themselves. Forced sales have been made on behalf of holders compelled to realise to meet heavy losses otherwise incurred. The mines are developing in a manner unequalled by any other lead-producing property in which the public have the opportunity of acquiring an interest. We could point to so-called lead mines selling in the market at an aggregate of from 30,000*l.* to 40,000*l.* that have never yet returned, or are likely to return, sufficient ore to pay the directors' fees. Yet we find Pateley Bridge Mines within six months after the incorporation of the company fully employing its smelting-furnaces in the reduction of its own ore, which returns 75 per cent. of lead, and will send to market forthwith 60 tons of pig-lead, while the aggregate market value is between 15,000*l.* and 16,000*l.* The recent marked improvement in some of the more prominent veins—notably Pringap, New Discovery, and Gulf Vein—have so far surpassed the expressed anticipations of the manager at the recent meeting; this strongly tends to confirm his statement that—"Should the mines continue to open up throughout the year as had been the case during the past three months, it may reasonably be expected that at a cost of 600*l.* to 700*l.* per month 100 tons of pig-lead can be returned monthly, of the gross value of 2200*l.*, equal to a net annual profit of 18,000*l.*" We reiterate our opinion that Pateley Bridge Lead Mines are without a parallel in respect of their position and prospects, having only 3000 shares, and selling at between 15,000*l.* and 16,000*l.*

HYDRAULIC GOLD-MINING.—We stated last week that the cause which partly destroyed the rim-rock or shore of the channel, and left high plateaus or table mountains as isolated landmarks of the ancient gravel stream, has undoubtedly to a great extent obliterated every surface indication of the existence of such gravel deposits, or even destroyed the last vestige of gravel deposit and channel, by creating gorges for modern rivers, which cross the ancient gravel streams nearly at right angles, and many hundred feet lower. The practical miner has known for a long time that these deep gravel streams may be discovered by following the presumptive course of the ancient river, though all outward indications have disappeared; and to sanction the view of the practical miner, and at the same time to show how beneficial is the application of science, it may be added that only recently valuable deep gravel deposits, indicated by geological survey, though hidden under mountains of apparently valueless detrital matter. Almost all gravel deposits are fitted for hydraulic operations, provided they are gold-bearing, and will admit of those improvements which are essential to this class of mining—to wit, sufficient outlet, a place of deposit for tailings, and abundance of water. After gaining the certainty that these requisites can be obtained, the miner may go to work to open his mine, confident of success. If already other mines are worked in apparently the same gravel deposit, he may be pretty sure to find the same stratification of gravel, cement, clay, sand, &c., and he must then judge for himself whether it will be advisable for him to drive at once a tunnel, or to ascertain first, by shaft or incline, the depth of the basin or channel.

EBERHARDT AND AURORA (Silver).—Nearly all the debenture-holders have assented to exchange their bonds for ordinary shares upon the terms we have previously fully explained. The half-yearly accounts made up to Dec. 31 will have to be received and audited before the directors are in a position to declare a dividend, but something like 10s. per share may then be looked for; an ample amount will then be left in hand as working capital. These mines have never before been in such a sound, financial condition, nor their prospects more favourable for a steady prosperous career. The shares have already responded to our favourable anticipations.

STOCK EXCHANGE GENERAL MARKETS.—Low-priced securities in their movements possess an interest peculiar to themselves. They indicate to some extent the probabilities of the securities becoming interest-bearing investments, and they also reflect the endeavours which have been made and the circumstances which have taken place to improve the chances of their becoming so. In cases where the prices have remained for a long time at certain points without material fluctuations, it would appear—and, no doubt, the inference is correct—that little or no improvement has been established in the position of the stocks in question, and that nothing has happened to cause even a temporary hope of better things in the future. It is not often, however, that the quotations of low-priced stocks remain for any considerable length of time without some variations; the reason of this is that when there exists even the smallest chance of an improved position, no matter if at a very distant date, rumours of various kinds will find circulation, and speculation will always be more or less busy in those directions in which there is apparently a larger margin for improvement. During the week the stock markets have been generally steady, but without much alteration, the approach of the Christmas holidays and the "account" immediately succeeding causing business to be very restricted. In foreign bonds, the only feature of importance has been the violent fluctuations in Peruvians; the latest information appears to be that arrangements are likely to be made to pay the January coupon, but in all probability the more immediate cause for the late firmness of quotations is to be found in the movement made by some influential bondholders to protect their interest.

THE NEW BRITISH IRON COMPANY.

A good illustration of the progress of the "limited liability" principle among joint-stock companies is supplied by an attempt which some leading shareholders of the New British Iron Company are making to convert it into a company on that principle. The company was formed many years ago, before the limited liability was introduced, and the attempt to make it "limited" is opposed by the directors for reasons which are not without interest as being in fact, if not in form, an able statement of the advantages to a company of that unlimited liability which is now so generally disapproved of. In the report which they have issued the directo insist chiefly on the fact that the credit of the company is now d servedly high on account of the unlimited liability of the partners and they are thus enabled to enter into operations which would otherwise be impossible. After noticing occasions on which the unlimited liability of the partners had thus been of use, and saying they had been told by the bank which gave them credit they would not have the same amount of credit if limited, the directors add:—

They have consulted Mr. Hunt, their local manager in Staffordshire, and he informs them that the very large depreciation in the price of the shares of those companies in his district which have been taken over by limited liability companies from private firms (exceeding in many cases 50 per cent.) has caused them to be looked upon with very great distrust. In his opinion this company, if limited, would find itself much hampered in conducting the business as heretofore, and, unless backed by a large amount of uncalled capital, must be prepared to pay cash, in many instances where they now give bills, for the raw materials, of which they must always hold a considerable stock. Since this question has been raised three-fourths at least of the debenture-holders of the company have intimated their intention to require payment of their debedtures at maturity if the company becomes limited. It is possible that other lenders may be found to take their places, but there can be no certainty that such will be the case, even if the company are prepared to pay a much higher rate of interest than at present; and failing fresh lenders calls will have to be made, which will substantially exhaust the present uncalled-for share capital. Again, the practice of the board in acquiring additional minerals, more especially in Staffordshire, a necessity which is constantly arising, has been to buy them out and out, and to pay the purchase-money by instalments. Hitherto vendors have been willing to sell, and to allow the company to enter into immediate possession of their property upon those terms, relying on the unlimited liability of the shareholders to make good the instalments as and when they fall due. There is no reason to suppose they will be equally willing to do so, except on the security of a large uncalled capital.

To all which the answer of course is, as the directors themselves suggest, that the limited liability principle does not forbid the retention of a certain amount of uncalled capital suitable to the requirements of a particular business, and what the directors fail to consider is whether the additional credit which unlimited liability gives—though we doubt if there is an addition worth considering in the case of a company with a reasonable amount of uncalled capital—is not too dearly purchased by all the risks which unlimited liability involves. It has evidently been urged upon the directors that limited shares are *cæteris paribus* more valuable than shares in unlimited companies, and the directors themselves admit this, provided the company is not hindered in its successful working. Why should the shareholders give up this additional value for the sake of the additional credit, if any, attainable by unlimited liability? The directors have also had it pointed out to them that limited shares are more easily transferable, and purchasers are more easily found in the event of death, to which their only reply is that if the number of new shareholders is largely increased the management may pass into their hand, "to the manifest prejudice of existing shareholders." If this is all that can be said for unlimited liability—and the special report seems to put the case, for no change as ably as can be—then it becomes quite plain that limited liability has carried the day. It is, of course, absurd to suppose that existing shareholders can be prejudiced by selling their shares, or part of their shares, to new shareholders, and allowing the latter to participate in the management of what will then be so far their own property. The danger to shareholders who remain from this infusion of new blood can be as nothing compared with the serious disadvantages alluded to in mentioning the difficulty of finding purchasers in the event of death. It is no light matter, we believe, even to find executors who are are willing to act on estates where a portion of the assets consists of shares in an "unlimited" company. The contest now going on in the case of "The New British Iron Company" is thus of some general interest, and it will be interesting to see whether the shareholders in favour of limited liability succeed in their attempt.

IRONMAKING IN AMERICA—770 TONS OF PIG-IRON IN A WEEK.—The Pittsburgh Manufacturer gives the following account of a remarkable run of iron made by the Isabella furnace No. 2 during the week ending Nov. 20:—

	Foundry iron.	Gray mill.	Mottled.	Total tons of 2240 lbs.
Saturday	—	117,930	—	52·1450
Sunday	—	246,780	—	110· 380
Monday	—	224,300	—	100· 300
Tuesday	—	164,610	80,310	109· 760
Wednesday	127,680	120,310	—	110·1490
Thursday	138,880	108,250	—	110· 730
Friday	31,360	229,740	—	116·1260
Saturday	—	135,410	—	60·1010
Total	297,920	1,347,230	80,310	770· 660
Foundry				133
Gray				601· 990
Mottled				35·1010
Total				770· 660

The working week at this furnace is from Saturday noon to Saturday noon, which accounts for the two Saturdays on the list. This run, which is with the No. 2 furnace, 75×20, not only surpasses any previous week, but anything ever before done in the world. We learn that these runs are not made at the expense of the fuel. The consumption of coke per ton of pig is very much less than only 400 tons were made per week. We shall now await developments, we are through setting a limit, and if Mr. Crowther at the Isabella, or Mr. Skelding at the Lucy, think they can make 800 or 850 tons per week we cannot be surprised. We shall be surprised if both of these furnaces do not reach a make between these figures before many weeks.—*Bulletin of the American Iron and Steel Association.*

UNEQUALLED BESSEMER FEAT.—We copy the following from the "Joliet Daily Sun," of Nov. 17:—The unprecedented feat of rolling 1207 rails in 17 hours and 25 minutes was accomplished at the Joliet Iron and Steel Works Monday night and Tuesday. The rolling on the night turn began Monday, Nov. 16, at 5·50., and at 5·45 Tuesday morning 603 rails were rolled. The day turn began at 6·35, and at 5·45 had finished its work of 604 rails. The actual time occupied in rolling was given as above, and the balance of time, five hour and forty minutes, was lost in heating, it being done in seven furnaces, four of them Siemens gas, and three coal furnaces, with a 23-in. 3-high train of 15 passes. This loss of time was occasioned by the fact that the capicity of the furnaces was not sufficient to supply the rolls. The rails rolled weighed 53 lbs. to the yard, standard length, 30 ft. The Bessemer works of the company have also accomplished wonders. For the week ending Saturday, Nov. 13, the works made 252 heats, the product being 1432 gross tons of steel ingots. The works started on Monday, Nov. 8, at 8 o'clock, and finished Saturday, Nov. 13, at 8 o'clock. On Saturday 31 heats were taken from one spiegel cupola. This extraordinary run was accomplished with the regular working force of this department.

DOMESTIC STEAM-ENGINE.—M. Roser, No. 8, Rue des Chaumettes, Paris, has just patented a very elegant and portable little steam-engine, admirably adapted for all sorts of domestic purposes and for a host of industries where small motive-power only is needed, as in hand-turning, watchmaking, machine-sewing, stamping, embossing, hand-printing, and the like. The generator consists of two concentric cylinders of iron plate, the inner containing a serpentine of sheet metal serving as a boiler, with the furnace underneath, whilst the space between the cylinders forms a steam-chamber. A feed-cistern surrounds the flue, so that the waste heat is utilised in raising the temperature of the feed-water. A spherical metal case encloses the safety-valve and steam-port. These engines are made in various sizes—from ½ to 2-horse power. A small one in the Maritime Exhibition, at the Palais d'Industrie, is of ½-horse power—i.e., its motive power is equal to that of two men. The generator is 2 ft. high, and 14 in. in diameter, and by an ingenious disposition the serpentine presents a fire-surface of 9 square feet nearly. Steam can be got up in it

within 12 minutes after lighting the fire, and the coke consumed when the engine is in full work costs 4 centimes (one halfpenny) per hour. The little engine drives a sewing-machine as well as a circular saw 15 in. in diameter. The invention appears particularly deserving of attention in establishments where sewing-machines are largely used. One such engine would drive a dozen or fifteen machines easily and serve as a stove for warming the work-room as well.—*Les Mondes*, Oct. 28, 1875.

POWERFUL EXPLOSIVE AGENTS.

With no other data for guides to the formation of an opinion than the assertions of those interested in the manufacture and sale of the ordinary kinds of blasting powder on the one hand, and of those similarly interested in one or other of the new explosives on the other hand, the contraction of erroneous notions has been almost unavoidable, so that the views of a disinterested authority upon the subject are especially valuable, and these views are fortunately supplied* by Mr. Walter N. Hill, B.Sc., the chemist of the United States Torpedo Station, who treats briefly of the whole range of explosives recently introduced. That the nitroglycerine explosives—dynamite, lithofracteur, and the rest—are considerably more powerful than the old forms of blasting powder has long since been known and admitted, but it is equally beyond question, that they are not equally safe in the hands of unskilled workmen, and that at present market prices they are decidedly more costly, power for power, than good ordinary blasting powder. Nitroglycerine used alone is so liable to what may be termed spontaneous explosion as to be for industrial purposes of little value, and when mixed with other materials there is so much liability to exudation, whilst such an extremely small quantity of exuded nitroglycerine is sufficient to set off the whole mass of the well-mixed and otherwise safe admixtures near it that they are all, to say the least, untrustworthy. Any trifling carelessness in the manufacture either of the nitroglycerine itself or of the compounds containing it renders the material absolutely dangerous, whilst corresponding carelessness in the manufacture of gunpowder merely produces a less powerful article.

At ordinary temperatures nitroglycerine is an oily liquid of 1·6 specific gravity; freshly made it is creamy white, and opaque, but "clears," or becomes transparent and colourless, or nearly so, on standing for a sufficient time depending on the temperature. What change takes place during this clearing is not, Mr. Hill continues, yet understood; it is, however, of considerable importance to the manufacturer, as by observing it he can arrive at the purity—freedom from acid—of his nitroglycerine. At moderately low temperatures, if the nitroglycerine does not contain free acid, the clearing goes on slowly, requiring from one to two weeks for its accomplishment. At 60° or 70° it goes on rapidly, two or three days being a sufficiently long time. Free acid hastens the operation greatly. The free acid can usually be removed by repeated washing, but if after this an acid reaction again shows itself the material is impure, and decomposition must be going on. Such nitroglycerine should be used as quickly as possible, and while it is kept must be carefully looked after and frequently washed. No instance has yet been noticed of spontaneous decomposition of properly made and purified nitroglycerine, and Mr. Hill thinks there can be no doubt that many accidents said to be due to spontaneous decomposition were really owing to the bad quality of the material. Manufacturing nitroglycerine cannot, he says, be a mere rule-of-thumb operation if the product is to be of good quality and reasonably safe.

The explosive preparations containing nitroglycerine are, as Mr. Hill very truly states, but forms in which nitroglycerine itself is presented for use. Their explosive power is derived from the nitroglycerine in them, so that they are not really explosives mixtures. In all of them nitroglycerine is present as nitroglycerine, but it is mixed with some absorbent substance or vehicle. In this way a solid or semi-solid, substance is obtained, which is much more convenient to use than the liquid itself. In dynamite the absorbent is usually a natural siliceous earth—kieselguhr—a fine white powder, composed of the skeletons of infusoria; it will take up from two to three times its weight of nitroglycerine without becoming pasty. The process of making dynamite is very simple. The nitroglycerine is mixed with the dry fine powder in a leaden vessel with wooden spatulas. Dynamite has a brown colour, and resembles in appearance moist brown sugar. It usually contains from 60 to 75 per cent. of nitroglycerine. The explosive properties of dynamite are those of the nitroglycerine contained in it, as the absorbent is an inert body. It freezes at the same temperature as its nitroglycerine to a white mass. The keeping qualities of dynamite are those of the nitroglycerine it is made from. Exudation must be guarded against. Therefore, it must not contain too much nitroglycerine, especially if it is liable to be exposed to comparatively high temperatures, which tend to make the nitroglycerine more fluid, and consequently less easily retained. The explosive force of dynamite is that of the nitroglycerine contained in it, or nearly so; if it contains 75 per cent. its comparative force may then be approximately stated at six times that of gunpowder, weight for weight.

It must be well understood that these observations only apply to the dynamite proper, or dynamite No. 1; and it is a curious circumstance that although so much was recently said by Mr. Nobel about the irrational character of some of the nitroglycerine preparations not made by himself, Mr. Hill shows that the dynamite No. 2, made in England, is practically a poor quality of lithofracteur, which must possess the disadvantages, if any, of the latter substance. The sole advantage that can be claimed for the best quality of dynamite as compared with other nitroglycerine preparations is that the kieselguhr is unchangeable. If other materials are equally so the claim is fallacious; if all other materials be changeable it is unfair to condemn the manufactures of rivals whilst putting a similar article on the market. Dynamite No. 2, as made in Great Britain, is shown by Mr. Hill to consist of 20 per cent. of nitroglycerine, with 69 per cent. of nitrate of soda, 7 per cent. of paraffin, and 4 per cent. of charcoal or coke dust; or, secondly, of 18 per cent. of nitroglycerine, with 71 per cent. of nitrate of potash, 1 per cent. of paraffin, and 10 per cent. of charcoal. On the following page he shows lithofracteur to consist of 52 per cent. of nitroglycerine, 30 per cent. of kiesulguhr, 12 per cent. of coal, 4 per cent. of soda saltpetre, and 2 per cent. of sulphur. Now, it is obvious that this must be nearly thrice as powerful and quite as safe as dynamite. The 30 per cent. of kieselguhr is more than sufficient to absorb the 52 per cent. of nitroglycerine, so that the 18 per cent. of coal, sulphur, and nitrate of soda would merely keep the explosive particles more widely separated. The assertion which Mr. Hill makes that lithofracteur is more liable to exudation than dynamite is simply absurd. He pretends that 25 per cent. of kieselguhr will hold 75 per cent. of nitroglycerine when combined to form dynamite, yet almost in the same breath declared that when the mixture of kieselguhr and nitroglycerine is in the proportion of 25 per cent. of kieselguhr to 43½ per cent. of nitroglycerine there is greater danger of exudation; in other words, if 1 part of kieselguhr will hold 3 parts of nitroglycerine there is safety, but when the 1 part of kieselguhr has to hold but 1½ parts of nitroglycerine there is danger. Before making a statement so ridiculous Mr. Hill should have stated from what university he holds his degree in science. The assertion that Dittmar's dualin, consisting of 50 per cent. of nitroglycerine, with 30 per cent. of fine sawdust and 20 per cent. of saltpetre, holds the nitroglycerine more feebly than kieselguhr is open to more than mere question. The safety of lithofracteur and dualin are practically equal, and both are quite as reliable as the best quality of dynamite.

The chapter on guncotton is an interesting one, the process of manufacture is well described, and Mr. Hill remarks that for convenience of handling guncotton is made into discs of various dimensions, or it may be pressed into slabs or blocks, which may be sawn, drilled, or cut as desired. The transportation of guncotton presents no special difficulties, since there is no danger of leakage, neither is it sensitive to blows. On explosion guncotton is almost entirely converted into gases, but the combustion is not so complete as when pure nitroglycerine is exploded. The picrates and fulminates are also dealt with. In his general remarks Mr. Hill admits that dynamite is liable to exudation, since he directs that if exudation is found be occurring the dynamite should be thoroughly remixed, and if necessary a small amount of absorbent added to it. He considers the cartridges should be made up at the place where they are to be used. The transportation of dynamite does nor seem to be attended with any special difficulty if ordinary care be taken. The transportation of wet compressed guncotton is free from all danger and difficulty. The amount of useful information contaiued in the pamphlet is very large, and, although evidently written for the purpose of promoting the sale of dynamite, there are sufficient facts given to ensure each of the new explosives receiving a fair share of attention. The notes are certainly worthy of being extensively read.

* "Notes on Certain Explosive Agents." By Walter N. Hill, BSc. Boston: John Allyn. London: Trübner and Co.

Stock Exchange Year Book.—Much additional information has been given in the new edition of this valuable annual, the first issue of which was noticed in the Journal a year ago. Last year particulars were given of investments representing nearly 4,500,000*l.*, yet in the present volume not only have the former notices been extended and completed to date, but upwards of 300 companies have been added, and the total is now as nearly as possible double the number quoted in the Stock Exchange Official List. The details of home, colonial, and foreign Government securities occupy about 25 pages, and these are followed by nearly 100 pages of railway information, banks, insurance companies, tramway companies, telegraph, gas and water works, trusts, mines, and miscellaneous companies being given with equal care and completeness. The volume has evidently been prepared with the utmost care, and will be found extremely useful to a large class of readers, whether they be directly engaged in the stock and share markets, or merely interested as investors.

Commercial Almanac.—The eighty-third annual edition of this excellent sheet almanac—that for 1876—has just been issued, and contains, in addition to lists of London bankers, customs' duties, British, Foreign, and Colonial mail steamship departures, stamps, postal arrangements, and other varied commercial information, a very useful list of the principal towns and places in the kingdom, with the names of the railways by which they are reached from the metropolis, distance therefrom, market days, &c. It is published at 6d., by Mr. M. S. Rickerby, of Walbrook, and will be found well worthy of a place on the office wall.

Letts's Diaries.—The use of one or other of the various forms of diary published by Messrs. Letts and Co., of the Royal Exchange, has for so many years been general in most of the City offices that it will suffice to mention that the new editions—those for 1876—are now issued. The Shilling Scribbling Diary, which is of excellent quality, and interleaved with blotting, is a very useful one; whilst No. 24 is a thoroughly good pocket diary for the man of business. No. 4 and No. 45 are both excellent forms for office use—the latter, a small octavo, issued at 3s. 6d. plain and 5s. 6d. interleaved with blotting, being the most convenient.

THE ELIMINATION OF SULPHUR FROM IRON.

This was the subject of an able paper which has just been read by its author, Mr. W. W. Heeley, ironworks manager, at a meeting of the South Staffordshire Mill and Forge Managers' Association.

Mr. Heeley remarked that the subject was of the utmost importance to everyone engaged in the manufacture of iron. Yet that after all that had been said by chemists and theorists the fact remained that sulphur could only be eliminated from iron by the two processes already known and practised by the trade—"puddling" and "physicing." It was, nevertheless, an open question whether they practiced those two processes to the greatest advantage. Proceeding to show what had been done, and what results had followed, the author, after elaborately describing both iron and sulphur, said that in puddling sulphur was the last thing which was got rid of, and it was got rid of by burning, though if they liked they might term it "oxidising." How was it, then, he asked, that with their certain knowledge that sulphur could be removed by the addition of "oxidising fluxes" without at all increasing labour, and with very little, if any, increase of cost, they resorted so little to the use of these fluxes? The reply was that when they were used the puddler wanted extra pay, asserting that the iron was "physiced." Instead of asking for extra pay the puddler ought to be very glad that physic was used, for its introduction reduced his labour at the same time that it produced a better class of iron. When, however, the men had fairly tried the physicing they would be glad of the change. To secure the necessary purification intense heat was needed. In puddling by the old methods this was impossible, and so long as that method remained in vogue physicing was a necessity, and should be resorted to. With new plants, such as the Danks or Siemens', this was unnecessary. Still even with those systems he thought that better results could be obtained if some ingredients should be introduced which would cause a chemical reaction, and displace the sulphur more quickly and more effectually.

Mr. Heeley then gave interesting descriptions of the Siemens' direct process, and of several other methods adopted by metallurgists upon the Continent and in our own country, and dwelt upon the process patented by James Henderson, for "making the purest steel or wrought iron from the most inferior pig, and to thoroughly eliminate all sulphur, phosphorus, and silicon." The materials which Henderson used were 100 parts Ringwood magnetic and titaniferous ores, and 40 parts of fluorspar. When the whole process had been sketched Mr. Heeley said that it had been proved frequently that as the percentage of manganese increased in pig-iron so did the percentage of sulphur decrease. For example, in blast furnace work, to ore and coke which in the ordinary way would produce a pig containing from 2 to 3 per cent. of sulphur, manganiferous ore should be added, so as to put 2 per cent. of manganese into the pig, the sulphur would be reduced to ·05 or ·08 per cent; but when 3 per cent. of manganese is found in pig-iron it never contained more than a slight trace of sulphur. As to the amount of phosphorus in iron, Mr. I. L. Bell had stated that 30,000 tons of phosphorus were annually sent away in the iron of the Cleveland district. If this were converted into phosphoric acid it would be worth 250,000*l.* as manure. Remaining in the iron it depreciated its value to the extent of 4,000,000*l.* as compared with the same amount of hematite iron. This estimate, referring to one district alone, showed how vast would be the saving in respect of the aggregate product of the United Kingdom. There was, therefore, a wide field for chemical ingenuity in endeavouring to discover a method whereby the phosphorus can be successfully eliminated from the pig-iron and made into valuable manure. For the sake of discussion he submitted the following propositions:—1. Sulphur could only be eliminated by the process already known and practised by the trade.—2. Those processes were puddling and physicing.—3. Mechanical puddling was the only puddling that could thoroughly effect the purpose.—4. If, with their present plants, they could not effectually eliminate sulphur by puddling, ought they not to try and do so by physicing?—5. Would it be desirable that their employers should pay a little more attention to the composition of the pig-iron they were called upon to use, and let them have an analysis of the pigs, so that they might have sure data to work upon?—Lastly. Did they as managers pay sufficient attention to those matters, or were they quietly permitting their trade to drift into other channels, as some asserted, or was it that other places had greater natural facilities and advantages?

The Chairman of the meeting was Mr. W. Molineux (the President of the Association), and amongst the members present were Messrs. Wright, Fieldhouse, W. H. Griffiths, Milner Pittaway, Skidmore, Rigby, S. Talbot, Matthews, William Edwards, S. Coley (Pelsall), Richard Edwards, Henry Hughes, J. Lester (secretary), and others.

Messrs. Edwards, Rigby, Wright, and the secretary took part in the discussion. Mr. Edwards thought that greater care should be exercised in the preliminary processes, so that the sulphur might be done away with before it got into the pig-iron. The enemy should be detected by the pig makers, and not allowed to escape from the blast-furnaces; then there not be the difficulty of getting rid of it when the pig-iron reached the forge. There was a general concurrence of view that the use of "oxidising fluxes" was desirable, and experience, it was shown, were in their favour. Manganese as a physic was well spoken of. A very cordial vote of thanks was passed to Mr. Heeley for his paper.

THE ELIMINATION OF SULPHUR FROM IRON.

Sir,—I have perused with some interest the paper prepared by Mr. W. W. Heeley, blast-furnace manager, and read by that gentleman to the members of the South Staffordshire Mill and Forge Managers' Association. Mr. Heeley's paper in the main is a very good one, but upon one or two minor points I am disposed to differ from that gentleman's conclusions. I fully agree with Mr. Heeley that the elimination of sulphur from the iron is a subject of the utmost importance to everyone engaged in the manufacture of iron; and permit me to add that the object aimed at by Mr. Heeley is one deserving of every encouragement; for whether the sulphur, &c., is eliminated from the iron before it reaches the puddling-furnace, or when in the puddling-furnace while the iron is in a molten, boiling, or porous state, a revolution of no mean importance to the iron trade interest will have been achieved. But it is the conclusions contained in the following paragraph, which represents a question and answer, put and given by Mr. Heeley himself, to which I take exception—"How was it then, he asked, that with their certain knowledge that sulphur could be removed by the addition of oxidising fluxes without at all increasing labour, and with very little, if any, increase of cost they resort so little to the use of these fluxes?" That is the question as Mr. Heeley puts it, and the following is the answer he has chosen to give—"The reply was that when they were used the puddler wanted extra pay, asserting that the iron was physiced. Instead of asking for extra pay the puddler ought to be very glad that physic was used, for its introduction reduced his labour at the same time that it produced a better class of iron."

From the general tenor of Mr. Heeley's paper, I am inclined to believe that Mr. Heeley has at least some little consideration and care for the present position of ironmasters and the future prosperity of the iron trade, and also some little sympathy with the puddlers; and still further believing that Mr. Heeley, if he can, will be willing to render both to masters and men a little assistance, and at the same time afford me some information, I will venture to ask him the following questions:—1. What is the name of the physic that he would use during the process of puddling that would produce a better class of iron, and at the same time lessen the labour of the puddlers?—2. When and where did any puddlers oppose the use of any additions or fluxes in the shape or character of physic? These questions are very plain ones, and I trust Mr. Heeley will not take it as unkind on my part if I ask him to please give them plain answers. In the meantime I will just further observe that in England and America I have worked as a puddler 30 years, and during that time I have puddled a very great variety of classes or qualities of pig and other iron, and have also used many ingredients as "physic," so called. For instance, I have used manganese, salt, pulverised clay, block-tin, spelter, &c., but whether or not this kind of physic tends to facilitate the evaporation or the elimination of sulphur, phosphorus, silicon (and other obnoxious ingredients, that chemists have yet to find names for) from the iron, and to improve its quality, it is not for me to assume to say. But this much I think I can truly say—that from my lengthened experience I have but little evidence to offer than any of the physic named has tended to lessen the amount or the hours of my labour. It is quite true that puddlers have claimed 6d. or 1s. per ton extra when working with physic; but does Mr. Heeley really seriously believe that such a small idem in the cost of manufacture stands alone in the way of an improved quality. Let me hope, then, that there is no one who would begrudge the puddler his present wage; for with all their extras, if the nature and character, the amount and hours, and the conditions and circumstances surrounding their labour are all taken into consideration, it will be found that they are about the worst paid class of workmen connected with any branch of industry in the kingdom.

Blowich, Dec. 17. James Capper, Ironworkers' Agent.

—*Birmingham Daily Post.*

THE CANNOCK AND RUGELEY COLLIERY.

During the recent meeting of the North Staffordshire Institute of Mining and Mechanical Engineers an interesting excursion was made to the Cannock and Rugeley Company's pits at Hednesford, where an opportunity was afforded of seeing some remarkably fine seams of coal worked in the most approved manner which modern science can suggest. Before coal took the place of charcoal in the smelting of iron, Cannock Chase furnished large quantities of wood for fuel. As coal gradually superseded charcoal, the trade of the charcoal burners of the Chase fell off in proportion; the old water-worked bloomeries and forges gave way to the more pretentious and powerful erections to South Staffordshire, were the trade in both coal and iron grew; and the oak still being fallen for ordinary timber and never replanted, the Chase gradually assumed an open condition. While the hills and the valleys have been made to wear an appearance in many places of great barrenness, valuable coal seams quite equal—and many who are qualified to form an opinion say superior—to any in the kingdom exist under the surface. No doubt for many generations coal has been got from the top seams on the Chase; but it was not until a very recent period that the mining operations were carried on to any great extent in the open Chase north of Norton. The Marquis of Anglesey, in 1850, made the first attempt to establish collieries there, and a property of nearly 4000 acres was subsequently leased to the Cannock Chase Company. The Cannock and Rugeley Company obtained a concession of nearly 3000 acres in 1863, and sunk pits to the deep and shallow coals. Subsequently several other companies were formed, and collieries are being developed to an extent which is surprising to those whose acquaintance with the district dates back 25 years.

The admirable manner in which the pits at Hednesford have been laid out is highly creditable to Mr. John Williamson, under whose direction the work has been done, and ensures the getting of the coal at the cheapest possible rate consistent with the safety of the men. The proper ventilation of a portion of the pits has been secured by the adoption of the fan system, which is also being applied to the whole of the pits belonging to the company. The Pool pits were the first visited; these have only been working a little over a year, but they are sunk to the deep and shallow coals, the shafts being 15 ft. in diameter and 360 yards deep, with a pair of 32-inch cylinder winding engines to each. The shafts are sunk more than 80 yards in the Bunter conglomerate, which yields immense volumes of water. But each shaft is tubbed to the extent of 70 yards, and thus about 3000 gallons of water a minute, which would otherwise find its way into the pits, is kept back. The temperature in the shafts is rather high, but the roadways and facings are well ventilated, and to make the ventilation more complete one of Guibal's fans is in course of erection, as already mentioned. The pit bottom and offices are lighted with gas, which is made from coal obtained in the first instance from the pit, and is conveyed down the shafts in ordinary pipes. The machinery and workings having been inspected, the visitors proceeded to the company's canal wharf, where numerous boats were being laden from trucks conveyed direct from the coal faces. Leaving the busy wharf, the visitors were conveyed to the Wood pits, which are also working the deep and shallow coals. There are three shafts—two 12 ft. and one 16 ft. in diameter—worked by two 26-in. cylinder engines and one 30-in. cylinder. The workings are here very extensive, and the ventilation is perfect, a 40 ft. diameter Guibal fan being in operation. Three sets of hauling machinery are in use, and are worked on the tail-rope system, effecting a saving of a vast amount of horse labour, each engine drawing 20 to 30 tubs at a time from distant points to the bottom of the pits shafts.

Referring to the general character and appearance of the pits, Mr. C. J. Homer, the President of the North Staffordshire Institute, expressed himself highly pleased that they had paid Hednesford a visit, and remarked that anyone going over the workings and seeing the underground arrangements could not but be surprised by the great amount of work done in so short a time, and pleased with the excellent way in which everything was done. Every arrangement was made, not only for the beneficial working of the mine, but also for the comfort of the hands employed therein. It was of the greatest importance in laying out a pit that the coal should be got to the bottom of the shaft at the least possible cost; and in going through the pits they had seen that day they could not help feeling that that object had been obtained there, though it might be that in some places the arrangements were not entirely completed. When men saw that not only did the company make the best arrangements for getting the coal as cheaply and as expeditiously as possible, but that they provided as far as possible for the comfort of all employed there, they would more cheerfully and readily do their duty. He trusted that they might have another opportunity of visiting the Cannock and Rugely Pits when further improvements were carried out. If they took 20 or 100 horses down a coal pit those horses must be fed, whether the pit stopped or not, from a strike or an accident, or any other cause, whereas an engine could be kept greased without much expense; so that though the first cost might be great, it was desirable to obtain machine power wherever they could. To carry out to perfection such works as they had seen that day required great energy and perseverance, as displayed by such gentlemen as Mr. Peake. He was quite free to admit that Mr. Williamson was entitled to the lion's share of praise for the underground arrangements, but he would not be able to go on long in those arrangements unless the purse-strings were opened. Those members of the Institute who had not joined them that day had missed a treat. The underground arrangements were perfection, and when the hauling arrangement were completed at the lower pit he should like to visit the colliery again. There were not the difficulties in the Cannock district which were met with in the North Staffordshire district. In the pits they had seen that day there was coal which could be worked on the long wall better than the stall system. The gob roads stood admirably, and that was what could not be boasted of in many coal fields. It was encouraging for a manager to put down roads in a substantial manner when he knew they would stand. The ventilation of the pits was also good. It was a question which ought to be foremost in every colliery manager's mind. They should consider whether fan or furnace was really the better system for ventilation, and if they decided in favour of the fan system they could then discuss the merits of the different fans made, and decide whether to have Guibal's or Waddell's, or some other kind. He trusted Mr. Williamson would contribute a paper on that subject to the Institute, so that the members might consider and discuss it thoroughly. He referred to the remarkably expeditous restoration of ventilation at the Bunker's Hill Colliery after the explosion there some months ago, and said it proved to his mind that in an emergency like that the fan ventilation was the right principle for ridding a mine of after-damp.

With regard to the laying out of the works, Mr. Williamson observed that he had had all done in as substantial a way as possible, and tried to get as much coal as they could at as little cost as possible. They concentrated the work as much as they could, and they found that by so doing they were enabled to do it cheaper. He knew the difficulties to be contended against in the North Staffordshire district, where they had an angle of 20° to 50° In North Staffordshire they could not drive straight headings, but in the Cannock district they had no occasion to turn. They could go a mile out straight to a given point, which could not be done in the north of the county. Nature had favoured the Cannock district a very great deal. They

had two as fine seams of coal as any in world. The deep coal could be used for house, furnace, or almost any purpose; and so might the shallow coal. On the Chase there were seams about which nothing need be said, but the day would come when they would have to be worked. There was a very good coal seam 3 ft. 6 in. or 3 ft. 8 in. thick, but they did not like to work little seams there. With respect to the haulage underground, he said the hauling engines had been down in the shallow pit six years, and had cost scarcely 5s. for repairs during the whole of that time. They were 20-in. cylinder engines, and were capable of doing double the work which they were doing now, so that they could have the full power which they required, without having any jumping and smashing of chains and ropes. The men did not like the hauling engines until they had had some experience of them, but now they were perfectly satisfied with them. The fan had been at work about 15 months. They obtained a fair quantity of wind by means of a furnace, but at length he found that it was getting short, and he suggested the putting down of a Guibal fan. They had 112,000 to 120,000 cubic feet of air per minute by means of the furnaces, but there was a tremendously high temperature in the upcast shaft, even 140° to 150°, and there was always something going wrong. The fan had worked well ever since it was put down. They had at first one engine, and he recommended a duplicate engine should be provided in case of accident, and that was done. Both engines worked as well now as at the first. There was now 180,000 cubic feet of air per minute sent into the pit, with 1½-in. water-gauge. The reason for such a low water-gauge was because there were two returns over the pit. The intakes were very large, being 7 ft. square. Then there were in each pit five different districts, and one or two of the districts were split again. He thought putting the fan at 40 revolutions they might, if requisite, be able to get 300,000 cubic feet of air per minute. The fan system of ventilation was unquestionably the best were there was gas: 43 years ago, when he first went down a pit, the ventilation was fearful. Instead of being, as it ought to be, the first thing considered in connection with the working of a colliery, it used to be the last; and he thought it was a great blessing that ventilation was brought to such perfection. They would never be able to altogether prevent accidents in mines, but he quite believed it was possible, by careful attention to ventilation, machinery, and everything connected with the working of a colliery, to lessen accidents. Mr. John Brown, of Littleworth, said that 24 years ago he marked out the Cannock Chase Company's works for the grandfather of the present Marquisof Anglesey. Although he expected great results to follow from the opening up collieries in that district, he never anticipated such rapid development of the mines as had been brought about.

UTILISATION OF SMALL COAL—THE DIAMOND FUEL COMPANY.

After annoying and almost innumerable delays, the Diamond Fuel Company appears to have at last got into fair working condition, so that the shareholders may now begin to congratulate themselves that the reward for their patience and perseverance is near at hand. It is generally acknowledged that from the first establishment of the undertaking everything connected with the business has been carried on in the most straightforward manner; the whole of the directors paid for their qualification in cash, and the real pecuniary interestin the concern which this gave them produced its full effect in causing hem to devote their best energies to secure success Thet introduction of new inventions almost invariably involves delays and disappointments, and many of those which have ultimately proved most profitable have been the most difficult to start. Even Henry Bessemer, who realised an immense fortune from his great invention of purifying iron by the pneumatic process, had obstacles to contend with in getting it into practical working order which would have caused many men to have abandoned the matter in disgust or despair, and it is probable that had not Mr. Bessemer's own means been very ample the benefits of his invention would not have been secured to the world.

The number of processes which have been suggested is very large, and although none of the systems of agglomeration have been perfect, the amount of business done in the fuel manufactured under them has been enormous, so that those concerned in the establishment of the Diamond Fuel Company were fully justified in assuming that, with a process which was deemed an improvement upon all previously in use, a good field for business must exist. This view has been quite borne out by experience—the Belvedere are at last in good working order. The works, which are many acres in extent, and held on a 90-years lease at a very reasonable rent, have a river frontage of some 500 ft., at one end of which, with 20 feet of water at high tide, an ample stage has been erected, with four lines of tramway, travelling crane, wagons, and travelling hoppers for the landing of the coal dust in the cheapest possible manner, and transporting it to the agglomerating machinery, whilst equally complete arrangements have been made in the shape of inclined plane, tramways, and jetty for the ready shipment of the finished fuel at the other end of the river frontage. The machine now running is equal to an output of 10 tons per hour, and two other of the same construction, but of larger size, are in course of erection, so that the company will very shortly be prepared to meet whatever demand may be made upon it.

The process of manufactnre has been before described, but it may be again mentioned that the essential feature of the patents owned by the company is the use of farina in combination with the other materials for the purpose of agglomeration. By way of preparation, the small coal is unloaded from the vessel, and passed into hoppers under the tramway, thence through a Carr's disintegrator, and at the same time the mucilage is in course of preparation in a series of boilers on the other side of the machine shed, and from which pipes are laid underground to the tanks near the machine. Elevators are provided for raising the coal which has passed the disintegrator, and the mucilage from the tanks, and delivering them into a pug-mill, which is in direct commucniation with the moulding machines. As an instance of the efficiency of the process, it will suffice to state that when necessary the finished blocks can be delivered at the ship's side within an hour from the time it is thrown into the disintegrator. And it is this rapidity, combined with the fact of the company manufacturing at the place of demand instead of at the pit's mouth, that will give them undoubted advantages, since the slack can be brought into the Thames at a very low price, can be manufactured into blocks at Belvedere cheaply, and readily sold to the numerous ships trading with the port of London. It is needless to add that the patent fuel can be put on board as quickly and with less damage than coal, so that the waste in burning is smaller, and as the price at which the small coal is purchased varies with that of the round coal, with which it has to compete, the company's profits may fairly be expected to be pretty regular, whatever may be the position of the general market. Large contracts have already been taken, and satisfactorily fulfilled, and as negociations are now going on in connection with considerably larger operations, no hesitation is felt that the time is not far distant when the shareholders will be in receipt of regular and remunerative dividends.

PREVENTING SHAFT ACCIDENTS.—For preventing loss of life, and damage to property, from the breaking of ropes, chains, connections, &c., Mr. H. P. HOLT, of Leeds, proposes to form a safely sump or pit at the bottom of the hoist shaft, into which the cage falls, in case of the ropes or connection breaking. This sump or pit is of the same form as the cage bottom, which fits nearly air-tight into it, and the cage is stopped gently its descend by the compression of the air in the sump or pit.

MAGNETO-ELECTRIC MACHINES.—The improvements patented by Messrs. JIM BILLING FULLER, of Brooklyn, and J. N. CRANDALL, of Norwich, U.S., relate to combining the electric waves or impulses induced alternately in opposite directions in the armature of a magneto electric machine, and forming them into constant currents flowing uniformly in one direction by the employment of radial arms arranged around a shaft or cylinder and wound with coils of insulated wire, the ends of which are so joined as to form a series of connected radial electro-magnets, magnetic coils communicating at proper points with corresponding parts of a sectional commutator, and caused to revolve between or near alternately opposite magnetic poles, whereby said electric waves thus induced in the said coils are collected together in two equal electric currents of similar name, and caused to flow each in opposite directions from said pole through all the intermediate coils to a point in said wire nearest the next opposite pole; said currents meet and combine, passing through an external circuit in one direction, and whereby said currents are also delivered at the points in the armature which for the time being are situated nearest the said maghetic poles where the magnetic and electric energy is strongest. The improvements also relate to pointed or tapering magnetic poles, whereby the abrupt falling off of the magnetic force is prevented, and the resulting current rendered more uniform.

STATISTICS OF THE COAL TRADE.

The aggregate production of coal in the United Kingdom during 1874 was, according to the Statistics prepared by Mr. Robert Hunt, of the Royal School of Mines, 126,590,108 tons, of which rather more than 30,500,000 tons was produced in Northumberland and Durham. In Westmoreland 1300 tons were produced, and Cumberland yielded a little over 1,100,000 tons. From the 36 collieries in Cheshire 615,000 tons were obtained, and Lancashire (the Manchester and St. Helen's districts combined) yielded over 15,500,000 tons. More than one-eighth of the collieries in the kingdom (521 out of 4112) are in Yorkshire, and that county produced very nearly 15,000,000 tons. In Mr. Evans's district the yield was in Derbyshire 7,150,570 tons; Nottinghamshire, 3,127,750 tons; Warwickshire, 851,500 tons; and Leicestershire, 1,100,465 tons. In South Staffordshire and Worcestershire the get was about 8,400,000 tons; in North Staffordshire, 4,300,000 tons; in Shropshire nearly 1,200,000 tons; and in Gloucestershire and Somersetshire about 1,750.000 tons. The 122 collieries in North Wales produced nearly 2,500,000 tons, and the 490 collieries in the South Wales and Monmouthshire districts yielded a little over 15,000,000 tons. In Scotland the total production was 16,800,000 tons, and in Ireland, 139,213 tons. With a view to test in every way the accuracy of the published aggregates of the produce of the coal-producing countries, Mr. Hunt has prepared the subjoined tables, showing—

Railways.	1873.	1874.	1874. Increase.	1874. Decrease.
London and North-Western:—				
From Cheshire ... ..Tons	95,687	119,044	22,357	—
Cumberland	348,404	266,866	—	81,538
Derbyshire	25,463	30,140	4,677	—
Lancashire	5,415,063	4,906,494	—	508,569
Leicestershire	59,169	33,667	—	25,502
Shropshire	107,680	107,091	—	589
Staffordshire	1,055,059	727,700	—	327,359
Wales, North	481,284	464,808	—	16,476
Wales, South	239,161	439,493	200,333	—
Warwickshire	248,450	214,124	—	34,326
Yorkshire	224,072	232,028	7,956	—
			235,323	994,359
Total actual decrease, 759,036 tons.				
Great Western:—				
From Radstock	237,746	204,894	—	32,852
Staffordshire	487,635	303,187	—	184,448
Wales, North	950,746	854,162	—	96,584
Wales, South	4,229,817	3,427,576	—	802,241
			—	1,116,125
Total decrease, 1,116,125 tons.				
Midland:—				
From Derbyshire	5,197,550	5,252,740	55,190	—
Durham	143,540	171.150	27,610	—
Gloucestershire	293,069	224,013	—	69,056
Lancashire	41,045	36,316	—	4,729
Leicestershire	1,074,816	1,049,664	—	25,152
Nottinghamshire	947,000	1,005,587	38,587	—
Staffordshire	46,690	60,590	13,900	—
Wales, South	36,690	154,876	118,186	—
Warwickshire	158,799	162,512	3,713	—
Yorkshire	1,872,312	1,497,738	—	374,574
			257,186	473,511
Total actual decrease, 216,325 tons.				
Great Northern:—				
From Derbyshire	441,226	416,202	—	25,024
Durham	365,143	341,501	—	23,642
Leicestershire	1,773	1,057	—	716
By Retford	240,350	184,935	—	55,415
Wales, South	8,542	11,184	2,642	—
Yorkshire, West	635,097	577,048	—	58,049
Yorkshire, South	862,139	753,162	—	108,977
			2,642	271,823
Total actual decrease, 269,181 tons.				
North-Eastern:—				
From Durham, &c.	10,792,279	10,689,847	—	102,432
York. & Lancashire	1,067,651	1,104,775	37,124	—
			37,124	102,432
Total actual decrease, 65,308 tons.				
Manchester, Sheffield, and Lincolnshire	3,943,231	4,124,579	181,348	—
Total increase, 181,348 tons.				
Lancashire and Yorkshire:—				
From Lancashire	2,871,805	2,859,742	—	12,063
Yorkshire	1,870,452	1,756,844	—	113,608
			—	125,671
Total decrease, 125,671 tons.				
North Staffordshire and Trent and Mersey	1,443,731	1,464,206	20,475	—
Total increase, 20,475 tons.				
Taff Vale	4,527,641	4,352,778	—	174,863
Monmouth. Rail. and Canal	2,093,002	2,120,700	27,698	—
Swansea Vale	672,873	No return	—	—
Brecon and Merthyr	769,933	No return	—	—
Neath and Brecon	126,770	164,525	37,755	—
Mid Wales	42,254	38,676	—	3,578
Llynvi and Ogmore	555,262	549,919	—	5,343
Maryport and Carlisle	282,787	245,671	—	37,116
			65,453	220,900
Total actual decrease, 154,447 tons.				
Caledonian	5,305,060	5,443,525	138,465	—
North British	4,016,351	3,841,856	—	174,495
Glasgow and South-Western	2,163,263	2,042,358	—	120,905
			138,465	295,400
Total actual decrease, 155,935 tons.				
Canals.				
Grand Junction	11,195	No return	—	—
Birmingham	4,587,600	4,117.937	—	369,663
Bridgewater	431,262	782,113	350,851	—
Stafford. and Worcestershire	236,380	No return	—	—
Erewash Valley	2,046,017	2,026,017	—	14,000
Gloucester and Berkeley	44,790	45,186	396	—
			351,247	383,666
Total actual decrease, 32,416 tons.				

ROMAN GRAVELS MINE.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—It may be agreeable to many of my fellow-shareholders to read an epitome of the setting report which appeared in the *Mining Journal* of the 9th inst., especially as the remarks made some time since by a correspondent of the Journal on the grouping of the mines in the deeper levels acted detrimental to those shareholders who are ever seeking to change their holdings, and to the advantage of those who believe in the opinion of their manager, and increased their interest. Contrary to the miners' rule of commencing at the bottom and reporting upwards, I purpose to have a fair start in the 65, and go deeper.

First, walking along the said 65 fm. level you pass about 20 miners, working at various points valued as follows:—Three at 40*l.* and two at 25*l.* per fathom, with the mining certainty of the forebreast entering into the great south shale bunch of lead ore. Passing down some 15 fms., either by ladders or through the stopes, we come to the 80 fm. level, where the number of miners is increased to 34, working at eight points, valued as follows:—Two at 40*l.*, three at 28*l.*, two at 20*l.*, and one poor, besides wide deposits of lead awaiting the coming forward of one or other sets of these miners. In the 65 I was in company with 20 miners; in the 80, 34 miners; and now, in the 95, there are 54 miners, working at a good dozen points, also valued as follows:—70*l.*, 60*l.*, 50*l.*, 40*l.*, 30*l.*, 25*l.*, 20*l.*, and 15*l.* per fathom. What a grand sight is the 95, in the Roman Gravels Mine. From these workings the shareholders have dividends of 8s. 6d. three times a-year—or, in other words, 200 tons of lead a month, broken by 20, 34, and 54 miners, admit of the above division of profits. A few weeks ago the manager reported that he is bringing through the 95 a run of rods to connect with the pumps, to get the water out of a shaft or winze sunk below the 95, previous to the erection of the permanent pumping and other machinery at the new south engine shaft. Assuming this will be sunk near the engine-shaft cross-cut, we shall have the ore ground passed over for 100 fms. south, and valued at rates similar to those named at the 95, immediately cut into sections by a few winzes, and subsequently communicated by levels. All of these sinkings and drivings below the 95 are in the finest body of lead ore seen in Shropshire. In conclusion, it is a dull speculator in mining who cannot comprehend in these and deeper sections of mineral ground many permanent and increasing dividends. I wish Shropshire miners all success, and you, Mr. Editor, a merry Christmas and a prosperous new year. TIMAH ITUM.

[For remainder of Original Correspondence see this day's Supplement.]

NEW LUBRICATOR.—The invention of Mr. J. WILKINS, of Wolverhampton, consists in the alteration of the condition of paraffin or petrouleum by mixing either or both with a fibrous material, such as india-rubber, whereby the paraffin or petroleum is suspended in a partially liquid condition, and becomes useful and available for lubricating and other purposes, as a substitute for oil and grease. A composition that does not congeal in a cold temperature nor easily dry at a very high temperature of heat, as oil does. The tinting or colouring this compound, and the making it odorous by the admixture of bergamot or some essence of odour to make it agreeable for sewing machines and other fine and delicate applications.

MINING NOTABILIA

[EXTRACTS FROM OUR MINING CORRESPONDENCE.]

SOUTH GREAT WORK.—Capt. S. Reed, in his report read at the meeting held last week, says the number of men on tutwork are 23; on tribute, varying from 7s. to 13s. 4d. in 1*l.*, 28; at surface, on stamps floors, engines, landing, filling, &c., 28, making a total of 79 hands. Taking into account the present points in operation, together with additional quantities of tin shortly after the 55 has been reached, we may safely state that the future prospects are better, and with the expected rise in tin we think the cost and returns will compare favourably with any mine of its depth.

WHEAL OWLES.—At the meeting, on Dec. 17, the accounts showed a debit balance of 19,848*l.* 3s. 9d.—Work performed during the quarter: 108 fms. 4 ft. driven in levels; and 54 fms. 5 ft. 5 in. sunk in shafts and winzes—23 pares stoping for tin on tutwork, and 22 pitches working on tribute.

WHEAL BASSET.—Mr. R. Martyn, the purser, writes—"We have this day (Tuesday) cut the south wall of a lode in the 100 cross-cut north, and from the character of the lode as far as we can yet see it, we have every reason to expect it will prove a profitable lode for copper."

GLAISDALE WHINSTONE QUARRY.—It will be remembered that at the last meeting of the company it was resolved that the base of the quarry should be opened up so as to reach a drift where a body of stone was known to exist. From a telegram received to-day we hear that "the stone is seen in the drift." From the present vigorous working it is expected that regular and continued profits will commence.

INDEPENDENCE.—At the meeting, on Tuesday, an adjournment to Jan. 25 was agreed upon.

HOLCOMBE VALLEY.—The annual meeting was held on Wednesday—Mr. John J. Courtenay in the chair. The secretary (Mr. W. J. Lavington) having read the notice convening the meeting, the Chairman stated that he had nothing of importance to communicate to the shareholders. Since last meeting the mine had remained idle, but the agent had for a time been able to lease the small mill. One of the directors, Mr. J. E. Bowe, was at present in California, and intended visiting the property in the spring, after which the board would decide upon what steps should be taken to make the property of the company available. The accounts, as circulated, were then adopted, and the auditors re-elected, after which the meeting separated with a vote of thanks to the Chairman.

HONDURAS COPPER MINING COMPANY (Limited).—At a special general meeting of shareholders, held at Salter's Hall-court, Cannon-street, on Dec. 15, the following resolutions were passed and confirmed:—1. That this company be wound-up voluntarily.—2. That Mr. Maurice Bibby be appointed liquidator, his remuneration being limited to a sum of 30*l.* for his personal service.

The following reports were received too late for insertion in their proper places:—

EAST BASSET.—Richard Pryor, Edward Adams, Dec. 22: On Friday last we set the following: A stope east of the 40 cross-cut, south of flat-rod shaft, by six men, at 2*l.* 15s. per fathom, lode worth from 18*l.* to 20*l.* per fathom. A stope west of same, by four men, at 3*l.* per fathom, lode worth 20*l.* per fathom. No other change throughout the mine.

ILLOGAN.—R. Pryor, Dec. 21: We have no change to report on in this mine since our setting report of last week.

NEW CONSOLS.—R. Pryor and Son, T. Jenkin, Henry Vial, Dec. 21: All the stopes continue quite as well as when last reported on; and we have no particular change to notice throughout the mine. At surface everything is now progressing satisfactorily.

NORTH TRESKERBY.—R. Pryor, Dec. 22: The lode in the stopes in the adit level, west of Highburrow shaft, is worth for tin about 11*l.* per fathom. We have just cut into the lode in the adit level, east of Doctor's engine-shaft, and it produces good stones of copper, with an excellent appearance. All other places are without change. Friday next being our pay and setting day a full report shall follow.

ST. AGNES CONSOLS.—J. and Wm. Vivian, Dec. 23: We have pleasure in informing you that our prospects are very much improved. In the 72, west of south cross-cut, the lode is now worth over 15*l.* per fm. for tin, and looks likely for further improvement. In the same level east the lode has a very promising appearance, and worth from 3*l.* to 4*l.* per fathom for tin. In the same level, east of north cross-cut, the lode is worth over 7*l.* per fathom for copper. In the 84 cross-cut south the rocks are more favourable for getting through than heretofore.

SAINT PATRICK.—Wm. Francis, Dec. 22: The 90 yard level cross-cut north still presents the same favourable indications, the cross-course being 2 ft 6 in. wide, with firm walls, and composed of clay, gossan, and aberdoe rock. The 120 yard level cross-cut is without change to note. Good progress is being made in both, and I am in constant expectation of cutting the main east and west vein in the former.

IN VOLUNTARY LIQUIDATION UNDER THE COMPANIES ACT, 1862.

THE NEW LLANGYNOG LEAD MINING COMPANY (LIMITED).

TO BE SOLD, BY PRIVATE TREATY, ALL the BENEFICIAL INTEREST of the New Llangynog Lead Mining Company (Limited) in the LLANGYNOG LEAD MINES, comprising all the valuable, productive, and extensive mines, veins, beds of lead, ores of lead, and other metals and minerals known collectively as the Llangynog Lead Mines, and in the reservoir, water-supply rights, easements, and interests thereto belonging, situate in the several parishes of Llangynog, Llanrhaiadr-yn-Mochnant, Hirnant, and Pennant, in the county of Montgomery; and also the WHOLE of the movable PLANT and MACHINERY of the said company.

The Llangynog Lead Mines have been a highly productive and dividend-paying property.

The mines, machinery, and plant are in working order, and considerable quantities of ore are now being raised.

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All further information may be obtained, and maps of the property inspected, on application to Messrs. GEO. HASWELL and SONS, 84, Foregate-street, Chester to HENRY DENNIS, Esq., Mining Engineer, Hafod-y-Bwch, Ruabon; or to Messrs LONGUEVILLE, JONES, and WILLIAMS, Solicitors, Oswestry.

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W. H. WILTON begs to thank his friends for their liberal support for so many years, and informs them that (having opened business at Valparaiso) he has now declined business in England in favour solely of Mr. A. JEFFERY, MATHEMATICAL INSTRUMENT MAKER, CAMBORNE, whom he considers (having been an assistant to his father for several years) is in every way capable of creditably maintaining the good name universally awarded to Wilton's instruments.

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Registration of New Companies.

The following joint-stock companies have been duly registered:—

MONTPELIER SILVER-LEAD MINING COMPANY (Limited). — Capital 20,000*l.*, in 1*l.* shares. To acquire the Montpelier Mine, in the parish of Michael, Isle of Man. The subscribers are—Thomas Rorke, 35, Victoria-street, Manchester, boot maker, 10; Tom Partington, 6, Brown-street, Manchester, 10; Peter Victory, Hardman-street, Manchester, cabinet maker, 10; J. R. Horner, Taunton Lodge, Ashton, gentleman, 10; James Caulfield, Manchester, merchant, 10; F. Grammer, 28, Mark's Buildings, Manchester, coal merchant; J. E. Galliford, King-street, Manchester. This company is registered without articles.

LLANGENNECH COAL COMPANY (Limited).—Capital 60,000*l.*, in 10*l.* shares. To complete the purchase and acquisition of the collieries mentioned in an indenture made between the Llangennech Colliery Company (Limited) by the official liquidator of the first part, Sir George Gore Brown, C.B., C. J. Green, and W. T. Charley of the second part, Herbert Ainsworth of the third part, and the Llangennech Coal Company (Limited) of the fourth part. The subscribers (who take one share each) are—Peter Foster, Bolton, cornfactor; Walter Ainsworth, Risington, Lancashire, cotton spinner; J. Kevor, Bolton, accountant; Robt. Winder, Bolton, solicitor; C. F. Ainsworth, Harwich, cotton spinner; Herbert Ainsworth, Bolton, colliery proprietor; and G. A. Winder, Bolton. The directors are Messrs. Peter Foster, C. F. Ainsworth, and Herbert Ainsworth, the qualification being the holding of 200 shares.

IMPERIAL UNION ACCIDENT ASSURANCE COMPANY (Limited).—Capital 500,000*l.*, in 1*l.* shares. To purchase the accident insurance business of the Imperial Union Assurance Company (Limited). The subscribers (who take one share each) are—Joseph Simpson, Eldon House, Lower Tooting; J. H. Evens, 4, Fitzroy-square; G. Long, Clapham Park; Napoleon Gibbs, Datchett, Bucks.; E. Smith, Manor Park, Lee; A. B. Shelley, Park road, West Dulwich.

ROYCE, GASCOINE, AND COMPANY (Limited).—Capital 80,000*l.*, in 10*l.* shares. To acquire the business of D. C. Royce, currier and leather seller, and also that of Messrs. Gascoine and Royce, shoe manufacturer and merchant of Nottingham. The subscribers are D. C. Royce, Warser Gate, Nottingham, 20; J. J. Gascoine, Nottingham, 20; G. A. Royce, Mansfield, 20; Jesse Hind, Nottingham, 20; A. Godliffe, Nottingham, 20; R. Mellors, Nottingham; M. R. Griffin, Handsworth, near Birmingham, 20.

MONTESERRAT COMPANY (Limited).—Capital 50,000*l.*, in 50*l.* shares. To acquire the business and assets of Sturge's Montserrat Company (Limited), including plantations, in the island of Montserrat, West Indies. The subscribers are—George Baker, Bellefield, Birmingham, £10; E. Sturge, Chalbury, Oxon, 20; Richard Dudley, Calthorp-road, Edgbaston, 10; W. Sturge, Stoney-lane, Sparkbrook, Birmingham, 20; J. S. Wright, Handsworth, 5; J. Sturge, Southfield, 20; and C. D. Sturge, St. James-road, Egdbaston, 20.

GENERAL SUBWAYS COMPANY (Limited).—Capital 100,000*l.*, in 5*l.* shares. To carry out the construction and maintenance of subways. The subscribers (who take one share each) are—F. Burdett, Ancaster House, Richmond Hill; J. J. H. Tucker, 32, Piccadilly; T. Walmsley, Britlands, Tonbridge Wells; F. S. Sullivan, 1, York Rise, Highgate; Q. D. Gurton Kellett-road, Brixton; Thos. Keys, 25, Hunter street; W. C. G. F. Radford, 43, Redcliffe-road, South Kensington.

STEEL, TOZER, AND HAMPTON (Limited).—Capital 70,000*l.*, in 100*l.* shares. To acquire the Phœnix Works at Jekles, near Rotherham, for the purpose of carrying on operations in connection with the conversion of steel by the Bessemer process. The subscribers (who take one share each) are—H. Steel, Westbourne, Sheffield; E. Tozer, Bromhill, Sheffield; Thomas Hampton, Patsmore, near Sheffield; J. Allcross, Haverstock Villa, Sharron, near Sheffield; H. C. Mitchell, Sheffield; E. Jeeres, 43, William street, Sheffield; J. F. Littlewood, Taplow Villa, Bromhill.

CONDE D'EU RAILWAY COMPANY (Limited).—Capital 200,000*l.*, in 10*l.* shares. To acquire concessions from the Brazilian Government for the construction of a railway from Parahyta to Algoa Grande, with branches to Inga and Independencia. The subscribers (who take one share each) are—F. Youle, Fenchurch-street; Henry Roberts, 17, Belsize-square; G. B. Mee, 9A, Great St. Helens; P. F. Needham, 9A, Great St. Helens; N. P. N. Trouson, 10, Old Broad-street; C. W. Ponsonby, 7, Stafford-street, Bond-street; S. Busk, 11, Pancras lane.

ALDBORUGH PIER AND IMPROVEMENTS COMPANY (Limited.—Capital 7000*l.*, in 5*l.* shares. To erect a pier at Aldborough, Suffolk.

GENERAL TRAMWAYS COMPANY OF PORTSMOUTH (Limited).—Capital 50,000*l.*, in 5*l.* shares. To construct tramways at Portsmouth and Portsea. The subscribers (who take one share each) are—E. K. Parsons, J.P., 14, King's terrace, Southend; J. Douglas, Summerlands, Southsea; B. Morris, Clarendon-road, Southsea; A. W. White, the Poplars, Portsmouth; J. Love, Grove House, Southsea; George Curtis, jun., J.P., Highland House, Portsea; J. J. Young, North End, Portsmouth.

JOHN CLAYTON AND COMPANY (Limited).—Capital 40,000*l.*, in 5*l.* shares. To acquire the Mellor Mill Factory, Mellor, Derby. The subscribers (who take one share each) are—J. Buckler, Kynder, Dunkinfield; S. H. Suire, Ashton; Joseph Wheldon, Mellor Mill; T. Parkes, Mellor; D. Paulden, Marpie; E. Furniss, Mellor; T. Garforth, Dunkinfield.

ROTARY ENGINES AND PUMPS.—Mr. J. SIMMONS, of Deptford, has patented an invention which has for its object improvements in rotary engines and pumps, and relates to the use within a cylinder of a drum-shaped piston mounted eccentrically upon a shaft, and arranged to operate in conjunction with a sliding piece or stop, working within a groove or recess, running along the cylinder a vibrating piece or block being interposed between the sliding piece or stop, and the eccentric drum-shaped piston in such manner as that a suitably curved face of the said vibrating piece or block shall bear against and follow the varying surface of the said piston, and thus form a packing piece to prevent the passage of fluid between the sliding piece or stop and the piston. At each side of the sliding piece or stop an orifice or orifices is or are formed in the cylinder for the admission or emission of fluid. The piston is suitably packed, and may be driven in either direction. When using the apparatus as an engine, steam is admitted through the groove or recess in which the sliding piece or stop works, and by passages through the sliding piece or stop, and the vibrating piece or block, which latter serves as a valve. In this way an expansion valve may be dispensed with. With this arrangement, by the introduction of a movable piece, engines may be reversed. In some cases ordinary D valves are used for the admission of steam and for reversing. Double acting machines are formed by dividing the cylinder by means of a diaphragm, or otherwise forming two chambers or cylinders, each provided with an eccentric drum-shaped piston. In another arrangement of double-acting engine, two cylinders are placed side by side, and their shafts are geared, a compound sliding stop working in a recess common to both cylinders being used. Compound engines may be constructed according to this invention, and the apparatus may be used for exhausting gas and various other purposes. It is proposed in some cases to cover the piston with leather or other suitable flexible material. In one modification of the engine, the vibrating block carries a ring or cylinder for containing the eccentric drum-shaped piston.

GUNCOTTON COMPOUNDS.—The invention of Mr. F. GREENING of Beaufoy-road, Plaistow, relates to the production of so called soluble guncotton, or of compounds analogous thereto, and consists, firstly, in the employment for effecting the conversion of cotton, or of other ligneous fibres of hydrochloric acid, in addition to and in conjunction with the sulphuric and nitric acids now generally employed; and, secondly, in the treatment of soluble guncotton, or of products analogous thereto, obtained as before mentioned or otherwise, after having been freed by washing in water from the excess of acids contained therein, by submitting the same to the action of an alkaline bath, in order that any acid or acids remaining in the converted cotton or product may be neutralised and a purer or comparatively purer product may be obtained. Thirdly, the employment in conjunction with soluble guncotton, or of compounds analogous thereto, for the production of ornamental objects or for other purposes, of transparent or of semi-transparent materials, or compounds in lieu of the opaque materials hitherto employed in the production of compounds produced from so-called soluble guncotton, such materials being by preference silica, powdered glass, or sulphate of lime.

ELECTRIC MAGNETIC MOTOR.—The first part of the invention of Messrs. H. M. and E. L. PAINE, of New Jersey, U.S., relates to the construction of a battery of great quantity in a small compass, constancy of action, and permanency of position. It consists in the combination of sulphuric acid in a porous cell, and water in a cistern, and the use of granulated zinc, and an exhausting tube. The second part of the invention relates to an improved method of constructing the limbs of electro maguets; an improved method of transmitting the electrical currents around the limbs, which ensures synchronous polarisation, and a modification of the armature, whereby an increased number of attractive pulsations are required. It consists in the combination of compound limbs with a shaft, the winding of the wires around the limbs to the right and left respectively in separate coils, and grooving the armature. The third part of the invention relates to an improved method of controlling the speed of electro-motors, and has particular reference to the operating of sewing machines and other mechanism remote from the battery or motor. It consists in the combination of two or more coils of different lengths or electrical resistances on a bobbin, with a plate and sectors and spring connection. The improved battery, magnet, and rheostat above referred to may be used together or otherwise.

EXTRACTING COPPER FROM MOTHER LIQUORS.—The Société Anonyme du Cuivre Francois, of Paris, claims the new combination of apparatus and means resulting in a production of sulphuretted hydrogen gas on a large scale, and in a new manufacture which has not hitherto been practically realised, and which is attained by the construction, disposition, and grouping of the apparatus by heating the acid for the attack before its introduction into the vessels, which hastens the reaction on the protosulpheret, and in consequence increases the quantity of gas, which can be disengaged in a given time by the withdrawal of the sulphate of iron at the lower part of the vessel, which permits its extraction even during the production of the gas, and gives the means of drawing off the acid to stop the disengagement of the sulphuretted hydrogen when desired by by employing a helix as a means of stirring. Also the method described for the manufacture of protosulphuret of iron.

ARTIFICIAL IRON ORE.—Mr. JOHNSON (for J. Cahen, of Paris), has patented an invention which relates to the manufacture of an artificial iron ore, and it consists in the conglomeration of the residuum of roasted iron pyrites with various substances, such, for example, as tar, dry or liquid pitch, coal, peat, ochreous or aluminous clays, marls, carbonates of lime, manganese, and other elements adapted for promoting the fusion or improving the quality of the cast-iron, which ore thus conglomerated and improved, may be used either for consumption in blast-furnaces or for other metallurgical purposes.

HOLLOWAY'S OINTMENT AND PILLS—HEALING, NOT HARMFUL.—Persons striving to live honestly and to pay their way have these never-failing remedies within reach, which, used as directed, successfully dispose of a serious illness at trifling expense. No application has met with the same universal approbation for curing all external ailments as that which unguent has received. Skin sores, deep ulcers, fœted discharges, burns, blistered surfaces, and many similar affections, are at once soothed and put on the road to soundness by Holloway's ointment. With his ointment and his pills the wealthy may save themselves much suffering, and the poor may help themselves to health, since these medicaments are reasonable in price, and can be purchased in every hamlet.

Mining Correspondence.

BRITISH MINES.

BOG.—W. T. Harris, J. Barkell, Dec. 22: The water is in fork, so that we have resumed working in the bottom, or 175, and in a short time we shall resume the sinking of the engine-shaft. There is no alteration calling for remark in any part of the mine since last report. Friday being our measuring and setting day, you will have a full report next week. We have sent out samples to day for the sale of 100 tons of blende on Wednesday, the 29th inst.

CRENVER AND WHEAL ABRAHAM UNITED.—W. Thomas, J. Hammill, Dec. 22: Sturt's Engine-Shaft: In the 228, driving west, the lode is 5 ft. wide, yielding copper ore to dress, having a kindly appearance.—St. George's Shaft: The 215 is communicated with the 220, east of Woolf's; the bottom of the 220 is 11 ft. above the bottom of the 215, where we shall put the men to stope, in order to discharge the water from Woolf's shaft to this level.—Woolf's Shaft: The lode in this shaft, sinking below the 220, is 4½ ft. wide, and will yield 2½ tons of copper ore per fathom.—Blewitt's Shaft: In the 234, driving west, the lode is 4 ft. wide, occasionally yielding stones of copper ore.—Richards's Shaft: In the 220, driving west, the lode is 6 ft. wide, and will yield 3 tons of copper ore per fathom. In the 210, driving west, the lode is 5 ft. wide, yielding 1½ ton of copper ore per fathom. The winze sinking below this level is communicated with the workings below, which has given good ventilation at this point. In the 200, driving west, the lode is 2 ft. wide, yielding stones of copper ore. We sampled yesterday copper ore computed 395 tons.

CWM DWYFOR (Copper and Silver-Lead).—J. Jewell, Dec. 22: There is no change since my special report of the 14th inst.—No. 4 South Lode: We have desued the lode in the No. 4 south for a length of 6 ft. and 7 ft. high. I expect when next we blast it down to see a fine pile of leadstuff. We shall commence two additional stopes on this lode in about three weeks.—No. 4 North Lode: The level on the course of this lode is driven 3 fms. 1 ft. east of the shaft from surface; we are pushing on the driving of this level so as to come under the richer ore ground towards the cross course incline. We shall finish laying the rails to the top of the incline by to-night.—Dressing-House: I am building a dressing-house, and as soon as this is completed shall build a lead-house.—Machinery: The machinery, both pumping and winding, is working well.

CWM ELAN (NEW).—W. Goldsworthy, Dec. 18: We have had very favourable weather during this week, and the mine was in fork by the time I anticipated. All bargains are now in full working order, and are maintaining their value as last reported on. If the weather continues I hope to get the parcel of 12 tons of lead ore ready for market by the end of this month.

DE BROKE.—T. Hodge and Son, Dec. 21: We hope to make better progress in sinking Wilson's shaft forthwith, as the branches of limespar that made the ground so tight are gradually disappearing into the north side. We have bored a hole 7 ft. 6 in. north of the cross-cut which discovered the ore which we are now driving on in the 25. We did not bore in any ore, so we are satisfied we are on the main leader. The east end continues to go forward on a rich lode, worth 25*l.* per fathom. Very little has been done in the west end: four men have left the mine. The lode in the end is a little more pinched up, worth 15*l.* per fm.; we hope this is only temporary. Daniel's winze is getting into more compact ground, therefore we expect an improvement soon. Dressing is going on with all vigour, and if it keeps fine we shall soon be ready to sample a parcel of lead.

DYLIFFE.—E. Rogers, Dec. 22: We have had no change in any of the bargains during the past week; 80 tons of lead ore have been sold to-day to the Panther Lead Company (Limited), at 15*l.* 2s. 6d. per ton, realising 1218*l.*

EAST DARREN.—Dec. 14: In the cross-cut south of Skinner's shaft, at the 130, fair progress is being made, and we hope to intersect the lode in 4 fms. further driving. In the cross-cut south of the 115, 60 fms. east of Taylor's shaft, the ground is chiefly composed of a dark clay-slate and beds of grit, now letting out water freely, which we think indicates we are near the south part of the lode. In the pitch over this level, 120 fms. east of Taylor's shaft, the lode is 6 ft. wide, yielding 1½ ton of lead ore per fathom. In the pitch over the same, 140 fms. east, the lode is 4 ft. wide, yielding 1 ton of ore per fathom. In the stope under the 104, 80 fms. east of same, the lode is 5 ft. wide, yielding 1 ton of lead ore per fathom. In the pitch under the same, 100 fms. east of same, the lode is large, yielding 18 cwts. of ore per fm. In the pitch over the 104, 110 fms. east of same, the lode is 5 ft. wide, yielding 10 cwts. of lead ore per fathom. In the stope over the same, 30 fms. west of Skinner's shaft, the lode is 4 ft. wide, yielding 6 cwts. of lead ore per fathom. In the pitch over the same, 160 fms. east of Taylor's shaft, the lode is large, yielding 1 ton of ore per fathom. In the stope under the 92, east of boundary, the lode is 1 yard wide, yielding from 8 to 10 cwts. of ore per fathom. In the three stopes over this level the lode is on an average 4 ft. wide, yielding 8 cwts. of lead ore per fathom. In the pitch over the drift below the 80 the lode is 1½ yard wide, yielding 1 ton of lead ore per fm. In the two pitches over the 80, on the south part of the lode, the lode is large, yielding on an average 12 cwts. of lead ore per fm. In the pitch over the 68 (120 fms.) the lode is large, yielding 7 cwts. of lead ore per fathom. Our machinery is all in good working order and repair. The severity of the weather since our last report has been much against dressing operations.

EAST VAN.—W. Williams, Dec. 21: We hope to resume the sinking of the new shaft on Monday next. We are still pushing on the 25 west; the end is beginning to get very damp, which is always a good feature in this lode.

EAST WHEAL GRENVILLE.—E. Hosking, Dec. 18: There is no change to report since our last.

GAWTON COPPER.—George Rowe, George Rowe, jun., Dec. 18: The lode in the 117, east of King's engine-shaft, is producing arsenical mundic, impregnated with ore. The lode in the winze sinking below the 117 is worth 15*l.* per fm. The stopes in back of the same level are worth 7*l.* per fathom. The lode in the rise in back of the 115 is worth 8*l.* per fathom. The lode in the winze sinking below the 95 is worth 6*l.* per fathom. The stopes in back of the 95 are worth 18*l.* per fm. The lode in the 82 east is improving in character, and producing good stones of ore. The stopes in the bottom of the 95 are worth 5*l.* per fathom. The stopes in back of the 70 are worth 9*l.* per fm. All other points are without change.

GREAT LAXEY.—F. Reddicliffe, Dec. 21: Deep Mine: The lode at the 235, south of engine-shaft, produces spots of ore occasionally only; and the same level north keeps of the same character as the level above, in which the lode was small and poor. Well on to the Welsh shaft. The same level, north of Welsh shaft, promises to be in good ore very shortly. The 220 north is improved, present value 25*l.* per fathom. The 210 north has just penetrated a small slide, and in connection with it a large vugh, 2 fms. long; spots of ore, however, is all the lode contains as yet. The 200 north is worth 65*l.* per fathom; the falling off in value here is due to a piece of rock coming into the middle of the lode, but altogether it is still a good looking lode. The 190 end is still farther improved, present value 90*l.* per fathom. No. 1 stope, in roof of 220, is worth 6*l.* per fathom. No. 2, 20*l.* per fathom. The stope in sole of 210 is worth 25*l.* per fathom; and the stope in roof worth 30*l.* per fathom. The sink in the 190 is worth 60*l.* per fathom. The stope in roof of 180 is worth 12*l.* per fathom. No. 1 stope, in roof of 165, is worth 60*l.* per fathom; and No. 2, 20*l.* per fathom. The winze in the 145 is worth 40*l.* per fathom. Stope in sole worth 35*l.* per fathom. No. 1 rise, and stope in roof, worth 90*l.*, and No. 2 rise and stope worth 40*l.*, per fathom.—Dumbell's: The 200 south has again improved, present value 55*l.* per fathom. The north end at this level we have suspended until the shaft shall be a little down out of the way, and a lodge cut, so that the stuff can be got away without hindrance to the sinking of the shaft. The character of the lode in the 185 north is much improved; and while the ore value of the lode at present is but 10*l.* per fathom, we may now expect material improvement in this respect also at any moment. The 170 north is without change, as also is the 140 south. The lode in the 125 has not been taken down during the last fortnight; last valued at 25*l.* per fathom. The winze in the 185 south is worth 45*l.* per fathom. The stope in sole is suspended for the present. No. 1 stope in roof is worth 20*l.*, and No. 2 30*l.* per fathom. The stope in roof of same level north is worth 30*l.* per fathom. The stope in sole of 170 north is worth 15*l.*, and one in sole of same level south, 30*l.* per fathom. No. 1 in roof is worth 20*l.*, and No. 2 40*l.*, per fathom. No. 1 stope, in sole of 155 south, is worth 60*l.*, and No. 2 75*l.*, per fathom. The rise and stope in this level are worth 60*l.* per fathom. The rise in 140 north is worth 12*l.* per fathom. The winze in the 110 north is worth 45*l.* per fathom. The rise in roof of this level is worth 50*l.* per fathom. All machinery and surface work going on as usual.

GREAT RETALLACK.—J. Harris, Dec. 18: The lode in the 45 east is improved for blende, now worth fully 2 tons per fathom, but the ground is spare for driving. In the 45 west the leader part of the lode is yielding good patches of blende, but not enough to value. The pitch below the 40, west of the cross-cut, south from the engine shaft, is not looking so well for blende as I expected, but the lode being subject to changes I am hoping it will improve again.

GUNNISLAKE (Clitters).—Wm. Skewis, J. C. Seccombe, Dec. 22: The lode in the rise in the back of the 128 is worth 70*l.* per fathom. In the eastern end at the 176 the lode is worth 7*l.* per fathom, and in the western end it is worth 8*l.* per fm. In the winze sinking in this level it is worth 50*l.* per fathom, and in the rise in the back of this level it is worth 9*l.* per fathom. In the 164 west the lode is producing saving work for copper ore, and looking more promising. In the rise in the back of this level the lode is worth 12*l.* per fathom. In the 140 west the lode is worth 8*l.* per fathom. The lode in the 128 west is producing saving work for copper ore, and looking kindly for improvement. The stopes throughout continue to yield about the usual quantity of copper ore. We are getting on as fast as possible with the next sampling, which will be a very good one.

LADYWELL.—A. Waters, Dec. 22: The 32 fm. level, south of engine-shaft, is now forth to a change of ground for the better, and we can see a large cavity in front of the end, which looks like the commencement of the ore ground. The stopes in the 16 and back of adit south are each worth 1 ton per fathom. The 16, north of shaft, is getting into the run of ore ground seen in the stopes above. The said stopes, Nos. 1 and 2, north of rise, are worth together 2½ tons per fathom each. We shall sample 25 tons lead ore to-morrow.

LLANRHAIADR.—E. Pascoe, Dec. 22: In the deep adit level a feeder of water has been cut during the past week in the north side of the level: I hope it will soon lead to a change. The lode in the level west of winze below No. 4 has, as far as taken down, yielded fine lumps of solid lead, and indicates an early improvement. The cross cut south of No. 4 level still yields a little ore, but not to value. The lode in the No. 3 level has a very promising appearance; it is composed of bastard granite intermixed with oxide of iron, carbonate of lime, and sulphur, and ought to produce lead. The stope east of No. 2 rise, over No. 4 level, is worth for lead 7*l.* per fathom.

LOVELL (THE).—J. Prisk, E. Kempthorne, Dec. 22: Fair progress is being made in sinking the sump-winze below the 40; the lode is still 10 ft. wide, worth 30*l.* per fathom. We have a patch of granite in the east end which we must expect to meet with occasionally in this kind of lode, but we are of opinion that more lode is standing in the north side, and which will be found of better quality; the men will now be put to cut in north to prove this point. The lode in the 40 end east is rather small, and not producing any tin to value; the progress here is slow, the ground being hard. The lode in No. 1 stope, east of shaft, in the back of the 40, is 18 ft. wide, worth 50*l.* per fathom. The lode in No. 2 stope, in the back of the 40 east, is 20 ft. wide, worth 65*l.* per fathom. We think we have the footwall in this stope, and according to its underlie we think we are safe in saying it is the south lode, and so far as we can see is likely to go up a considerable distance, if not to the 12 these stopes are being worked by 18 men, at 5s. 6d. per ton of 21 cwts. In the cross-cut south, in the 30, the men are making excellent progress, and by our next setting-day we hope to be near the lode. All surface work is going on satisfactorily.

MARKE VALLEY.—Jas. Seccombe, Jas. Stenlake, F. Rienals, Dec. 17: Setting Report: To sink Salisbury shaft below the 136, by nine men, at 50*l.* per fathom. To drive the 136 west, on the south side of Marke's lode, by four men, at 7*l.* per fathom; the ground is favourable granite. To stope Marke's lode in back of the 124, by two men, at 3*l.* 5s. per fathom, worth 3 tons per fathom. To stope Marke's lode, in the bottom of the 100, by four men, at 8*l.* per fathom, worth 4 tons. No. 1 stope, on Rosedown lode, in bottom of the 80, by four men, at 6*l.* 10s. per fathom, worth 5 tons per fm. No. 2 stope, in bottom of same level, by four men, at 4*l.* per per fathom, worth 4 tons per fathom. To stope the south part of Rosedown lode, in bottom of the 80, by four men, at 6*l.* 10s. per fathom, worth 5 tons per fathom. To drive the cross-cut south from the 70 west, by two men, at 14*l.* per fathom; the lode in the end is of capel and quartz, spotted with copper ore. To rise on Rosedown lode, in back of the 60, by three men, at 7*l.* per fathom, worth 3 tons per fathom. To stope Rosedown lode, in bottom of the 60, by four men, at 8*l.* per fathom, worth 4 tons. No. 1 stope, in back of the 60, on Rosedown lode, by four men, at 3*l.* 10s. per fathom, worth 4 tons per fathom. No. 2 stope, in back of the same level, by four men, at 4*l.* per fathom, worth 3 tons per fathom. To drive the 50 west, on Rosedown lode, by two men, at 5*l.* 10s. per fathom, worth 2 tons of copper ore per fathom, and very promising in appearance. No. 1 stope, in bottom of the 50, by four men, at 5*l.* 10s. per fathom, worth 2 tons per fathom. No. 2 stope, in the bottom of the same level, by four men, at 4*l.* 10s. per fathom, worth 3 tons per fathom. To stope Rosedown lode, in back of the 50, by six men, at 7*l.* per fathom, worth 5 tons per fathom. To stope Rosedown lode, in the back of the 40, by four men, at 6*l.* per fathom, worth 2½ tons per fathom. To drive the cross-cut north, in the 30 west, by four men, at 12*l.* 10s. per fathom; this cross-cut is not yet through the lode, which so far as seen will yield 3 tons of copper ore per fathom. To stope Rosedown lode, in bottom of the 30, by four men, at 5*l.* per fathom, worth 4 tons per fathom. To stope Rosedown lode in the back of the 30, by three men, at 3*l.* per fathom, worth 2 tons per fathom. To drive the 20 west, on Rosedown lode, by four men, at 13*l.* per fathom; the lode now in the end is harder than it was, being composed of capel and quartz, with 1½ ton of copper ore per fathom. No. 1 stope, in back of the 20, on Rosedown lode, by four men, at 5*l.* per fathom, worth 3 tons per fathom. No. 2 stope, in back of the same level, by four men, at 5*l.* per fathom, worth 5 tons per fathom. To drive Salisbury adit west, on north side of the lode, by four men, at 5*l.* per fathom. A pitch in back of the 124, on Marke's lode, by two men, at 13s. 4d. in 1*l.* A pitch in back of the 112, on Marke's lode, by two men, at 12s. in 1*l.* A pitch in back of the 100, on Marke's lode, by two men, at 13s. 4d. in 1*l.* A pitch in the back of 80, on Rosedown lode, by two men, at 5s. in 1*l.* Having bored the hole in bottom of the new shaft 9½ fathoms, and cut the lode in it, we believe it to be south of the highest point of the rise, and have, therefore, put the men to continue rising on the lode, and resumed the sinking of the shaft; as soon as the water is let down we shall set these points.

MONYDD GORDDU.—Richard Rowse, Dec. 22: On Saturday evening last heavy rain began to fall, which by Sunday morning enabled us to set the wheel going full speed, and clear the mine of water, draw the accumulated stuff at the 12, and set all the bargains to work on the afternoon of that day. We still have plenty of power to draw, crush, and pump, and are doing all we can to open the mine and return the lead at command. I have nothing fresh to report respecting either Burnitt's shaft, sinking below the 12, or the 12 east; fair progress is made in the former and slow progress in the latter, the lode being porous quartz and very wet, with occasionally some good sioes of lead, blende, and copper—a promising lode. We have driven about 8 ft. on the south lode at the adit; the average value for this length is 10 cwts. per fathom; the shaftmen will continue to drive this end if hindered at any time from sinking. In the portion of lode carried north of the winze the lead has dipped to the north to join the leading part in that direction, and when the winze is through and the lode blasted down I expect a fine course of ore. The winze is sunk between 6 and 7 fathoms. I have taken the four men stoping the 16, east of Picketts', to stope west of ditto, where the lode is worth about 20*l.* per fathom. When the stuff has been cleared from the stope, east of Picketts', and stull fixed, &c., it will be resumed. The lode in the other stope from Pickett's is of about the same value as for some time past.

NEW HENDRE.—Wm. Rowe, Dec. 20: Pay and Setting Report for Dec. 18: The deep adit end set to drive by six men, for the month, at 8*l.* per fathom; no alteration in the lode or the ground in the end calling for remark.

NEW ROSEWARNE.—E. Hosking, Dec. 18: Setting Report: To drive the 67, west of Pool's shaft, by six men, at 7*l.* per fathom; the lode is 2½ ft. wide, producing a little more ore, and looking kindlier than for some time past. To drive the 58, west of Pool's shaft, by six men, at 5*l.* per fathom; the lode is 18 in. wide, and worth 5*l.* per fathom. We have suspended the winze below the 58 in consequence of the water, which we expect will be drained by the 67 in the course of two or three weeks, and have set to stope above the 58, west of Pool's shaft, by eight men, at 4*l.* per fathom; the lode is 2 ft. wide, and worth 18*l.* per fathom. This is the best looking bunch of ore we have yet discovered here. On account of having such a fine looking lode in the stope we have set the 46 end to drive west by four men, at 3*l.* 10s. per fathom.

OLD TINCROFT CONSOLS.—J. Pope, Dec. 22: No change to notice since my last. The bargains continue as productive as when last reported on, and from present appearance are likely to improve shortly.

OLD TREBURGETT.—Wm. Hancock, W. T. Bryant, Dec. 22: The lode in the 90, south of shaft, is 6 ft. wide, and worth 5*l.* per fathom—a fine-looking lode, and ought, in our opinion, soon to improve very much. In the 80 south we are still driving by the side of the lode for dispatch; we shall soon be idle in this end unless the lords come to some decision that we may draw away the stuff. In the 70 south the lode is 2 ft. wide, producing stones of silver-lead. No. 3 winze, under this level, is being sunk on the east part of the lode for speed; the ore-bearing part will not be taken down until communicated with the 80. No. 4 winze, under this level, is on a fine-looking lode, worth about 70*l.* per fathom. Nos. 1 and 2 stopes, in the back of this level, have very much fallen off in value. Nos. 3 and 4 are worth on the aggregate about 50*l.* per fathom. In the 60 south not much has been done this last week, owing to the men having been ill, consequently there is not much change. At Masey's shaft the progress is slow, and will be for the first 6 or 8 fathoms below the shallow adit, owing to so much crushed ground and old timber to contend with. We sold to-day two parcels of silver-lead ore. No. 1, computed 33 tons, at 26*l.* 19s. 6d. per ton; No. 2, computed 10 tons, at 19*l.* 0s. 6d. per ton.

PARYS MOUNTAIN.—T. Mitchell, Dec. 22: The 90 cross-cut south continues in a hard bar of ground, and is spare for driving. The ground in the 65 west is changing, and the lode in the forebreast is looking more promising. The 45, east of cross-course, continues to yield 4 tons of copper ore and 2 tons of sulphur per fathom; the lode is very hard at this point. The 30 is looking better, and producing some good stones of ore. The various stopes are looking much as usual. The tribute pitches are, on the whole, looking better. Our setting will take place on Friday next.

PATELEY BRIDGE.—C. Williams, Dec. 22: I have no particular change to report this week; good progress has been made throughout the mines, all the productive points yield their usual quantities of ore, and our cross-cuts in the 20 are being pushed forward towards the different veins as fast as the nature of the ground will admit. Crushing and dressing ore are being proceeded with regularly. Our calcining and smelting works are progressing satisfactorily.

PEDN-AN-DREA UNITED.—Wm. Tregay, Wm. Prideaux, J. Pope, Dec. 18: Sump: In the 160 north cross-cut there has been nothing of importance intersected since last report. In the 160 west the lode is still divided into branches, some of those branches producing stones of tin. In the 150 west end the lode (Martin's) is worth 8*l.* per fathom. In the 140 west end the lode (Martin's) is worth 12*l.* per fathom. In the 130 west end the lode (Martin's) is worth 8*l.* per fathom.—Cardozo's: In the 100 west end the lode (north) is worth 15*l.* per fathom. In the 90 west winze the lode (north) is worth 10*l.* per fathom. In the 90 west end the lode (north) is worth 12*l.* per fathom. In the 80 west end the lode (north) is worth 15*l.* per fathom. In the 60 west end the lode (north) is worth 10*l.* per fathom. In the 55 west end the lode (north) is worth 12*l.* per fathom. In the 47 west end the lode (north) 9*l.* per fathom.—Critchley's: In the 70 to 90 we are proceeding with cutting down and timbering this shaft as fast as possible, and with rather better progress than of late. We calculate on an improvement in the ground shortly, and, consequently, increased speed. In the 140 west the lode produces stones of tin, but has not yet got clear of the influence of the cross-course. In the 130 west the end is producing rich quality tinstone, but the lode is not yet clear of the cross-course; present value about 15*l.* per fathom. In the 120 rise we are now making good progress; there is a lode or branch in this rise producing good stones of tin, but whether or not it has any connection with any yet intersected below we cannot yet say. In the 90 cross-cut nothing of importance yet intersected. In the 47 east end the lode produces occasional stones of tin.

PENNERLEY.—W. T. Harris, J. Delbridge, Dec. 22: In the 130 west, on Big Ore lode, the lode is ½ ft. wide, producing occasional stones of lead. The lode in the 120 west is not looking so well, now worth 1 ton of lead per fm; this, we hope, is only temporary. The ground is very encouraging for the production of ore. In this level east no lode has been taken down, consequently there is no change. The lode in the winze sinking below the 70, on Warm Water lode, is worth 2½ tons of lead per fm.—9 ft. long. In the cross-cut driving north, in the 25, we have intersected the lode, which is small, and yielding no lead to value, and have commenced to drive west on its course from the No. 1 cross-cut, where the lode is 1½ ft. wide, of a promising character.—Potter's Pit: The sinking of the shaft below the 75 is making the same good progress as reported last week. The level driving west, on the north lode, is being pushed forward, and producing some good stones of lead. Nos. 2 and 3 winzes, sinking below the 65, are yielding lead about the same as last reported. These winzes are evidently on the same run of ore. Having communicated from one to the other for ventilation, we find a productive lode for the whole length of (say) 7 fms., and we purpose now to sink and stope at the same time. No other change to notice. A full report shall be sent you next week.

PLYNLIMMON.—John Garland, Dec. 21: The mine is being rapidly drained, and I expect to resume sinking the new shaft some time to-day. The driving of the 24, east of Hughes's winze, will be resumed this afternoon; the lode in the present end is large and kindly, composed of blende, mundic, and lead ore, producing of the latter 15 cwts. per fathom, and is rather more productive in the bottom; this looks well for the 36 fm. level. Not having any vacancy underground to take the dead stuff from the 12, west of engine-shaft, I have for the time suspended this end; the lode continues unproductive; we shall shortly draw away some orestuff lying here, when driving can be resumed more economically than now. The stope in back of drift, east of Hughes's winze, produces ½ ton of lead ore per fathom. In the drift, west of Hughes's winze, the lode produces saving work only; I expect an improvement here shortly. The stope over this drift also produces about ½ ton of lead ore per fathom. The stope over the 12, 40 fms. east of new shaft, produces 1 ton of lead ore per fathom. During the past month fair progress has been made in driving the cross cut, north of the adit level; the ground continues to be congenial for lead ore; I expect to intersect the lode in about a fortnight or three weeks from date at farthest.—Surface: Drawing and dressing were resumed yesterday. We have a good supply of water, with fine open weather, which I trust will continue. We have some of the ironwork for water wheel on the mine, and expect to get the whole delivered against the end of the week, and no time shall be lost in getting everything ready to start the steam-engine when it may be required in cases of frost and drought.

PRINCE OF WALES.—J. Andrews, J. Pryor, Dec. 22: The only change in the 77 west is that the ground is a little easier for progress. The lode in the 55 west is 2 ft. wide, yielding good stones of ore. The lode in the 45 west is 8 ft. wide, but we are carrying only 4 ft. of the south part, which is worth 16*l.* per fathom.

RELISTIAN CONSOLS.—J. Curtis, Dec. 22: Setting Report: Duke's shaft to sink below the 24, by six men, at 20*l.* per fathom. This shaft is being carried 5 ft. wide, and is all in lode and no south wall yet seen, with stones of mundic, blende, &c., in it, but not to value.

RHEIDOL.—J. Ridge, Dec. 18: The 30 to drive west by six men, at 6*l.* 10s. per fathom; the lode continues of the same promising character as when last reported—large, and produces a good mixture of lead and blende for its part carried, and is letting out a great deal more water than we have hitherto seen in this level, which is a very favourable indication, and as there is good ore gone down in bottom of the 10 a few fathoms before this end I think we may reasonably expect a further and speedy improvement.

ROMAN GRAVELS.—Arthur Waters, Dec. 22: The 95, north of old engine-shaft, is worth 2 tons of lead ore per fathom. The 95 south is not yet through the counter, and is at present worth 1 ton per fathom; we hope to finish cutting the ground in this level and be able to commence sinking a shaft below it, on the Roman vein, in

about 10 days from now. We shall work flat rods through the 95 crost-cut to do the pumping. The 80, south of Corfield's, is worth 3½ tons per fathom, and improving. There is a splendid run of ore ground south of the said end for 50 fms. in length, and I expect the lode will go on improving from the present end weekly. The new engine-shaft is 5 fms. 1 ft. below the 80 fm. level. The 65, south of Stokes's winze is worth 3 tons per fathom, and looks like further improvement. The lead is brighter than usual, which, together with the spar now to be seen, are characteristic of a shale bunch of lead. We are preparing to sink a winze below the said level to go down in time for the coming south of the 80. The stopes generally are yielding fair quantities of lead ore.

ST. DAVID'S.—John Jones, Dec. 22: I have removed two of the m · 28 yards level, and have put them to drive from bottom of shaft southward; they have driven but a very short distance yet, but the ground has already improved, showing some lead, which I expect will soon lead to something better. The two men driving northward from bottom of shaft are making as much progress as possible; but I do not expect them to come to the ore ground for a little time yet. The other four men are now driving a drift under the 28 yards level, towards the south. The ground is most congenial for lead, although we do not get it in very large quantities yet; but the lumps we get here are such as lead me to expect that there is much stronger ore near us. The lode is about 3 ft. wide, of very promising ground for the whole width.

SOUTH CONDURROW.—W. Rich, W. Williams, H. Abraham, Dec. 22: The lode in the 93 end east is worth 8l. per fathom. The 93 west is worth 12l. per fathom. The rise in the back of this level is worth 12l. per fathom. The 80 east is worth 10l. per fathom. The 80 west is worth 6l. per fathom. The 70 east is worth 9l. per fathom. The 70 west is unproductive. There is no alteration to notice in the 60 cross-cut north. We are clearing the 60 west, on the perpendicular lode. The 50, east of King's shaft, is now worth 7l. per fathom. The 50, east of Frasier's shaft, is unproductive. We have not yet intersected the Wheal Grenville lode, in the cross-cut north of boundary shaft.

SOUTH PRINCE PATRICK.—J. Jones, Dec. 22: Some time ago I mentioned a discovery in the north driving from the western shaft. That discovery was an east and west vein, with very nice lead in it; but the ground hardening pretty soon, I thought it better to leave it for a more favourable time, and last week we recommenced there, and I am happy to say that the lead has widened since then, although the ground continues hard.—Southern Shaft: There is not much improvement here since my last; but from all I see, I believe I will be able to report more favourably of this end in my next.—Salisbury's Shaft: We have commenced working here since Monday. There was a deal to be done, setting ladders; but with all, we have been able to work a little on our new discovery here, which I find to be a very strong "flat," either an entirely new ore, or ore which has been discovered elsewhere, and is of great repute. At all events, I am most happy to have come upon it, and expect it will turn out a most fortunate discovery; the matrix is all that could be desired for production of lead. I hope to be able to report a discovery of ore in it soon.

SOUTH TOLCARNE.—J. Vivian and Son, Jas. Paull, Dec. 22: The sumpmen have made good progress in cutting plat, road, &c., preparatory to sinking the engine-shaft below the 40. In the 40, east of the cross-cut, on the tin lode, the lode is 2 ft. wide, and worth about 20l. per fathom. In the same level, west of the cross-cut, the same level is 1½ ft. wide, and also worth about 20l. per fathom. In the 30 fathom level, east of the cross-cut, Fraser's lode is at present small, and unproductive.

SOUTH WHEAL FRANCES.—A. T. James, Dec. 18: Pascoe's shaft is sunk 7½ fathoms below the 185; the lode is 3 ft. wide, worth 20l. per fathom for tin, d presents a promising appearance. This shaft has been sunk about 100 fms. in unproductive rock; a junction of elvan and granite has now however been met, in which the lode has taken a more perpendicular turn, and assumed a productive character. The 185 cross-cut is driven about 17 fms. north of Pascoe's shaft, and is being urged on by eight men, at 18l. per fathom; the last 10 fathoms driven has been through elvan, which we consider a favourable indication, and for which this district is famous, as most of the lodes have produced their greatest wealth in connection with these junctions. In this drivage several veins have been met with, but no symptoms of West Basset great lode have yet been seen. Eight men are employed putting in a new balance-bob at the 134, which we hope to finish in the coming week.

TANKERVILLE.—A. Waters, Dec. 22: In the 167 cross-cut, going south from the bottom of Watson's engine shaft, we have cut into the lode and ore for 6 ft. in width, still there is no sign of the footwall. A strong feed of water is flowing out of the end, from which fact we consider it probable that the main portion of the lode is yet to be cut into here. We are preparing to send down a new pump, and shall next week go on with the work necessary to the winding from the bottom level with machine kibble. The winze below the 152, west of shaft, is now down to the richest lode we have had throughout the sinking. The stopes in back of the 152 are yielding their usual quantities of lead ore—from 3 to 15 tons per fathom. The winze below the 140, on the north part of the lode, is worth 2 tons per fm. The stope in the 140 west is worth 3 tons per fathom. The stope in back of the 130 west is worth 2 tons per fathom. The stope in back of the 100 is worth 2 tons per fathom. The stope in the 80, east of old shaft cross-cut, east of Watson's, is worth 2 tons per fm. Other points without change to write about since last reported on. The engine-house for the new Cornish pumping-engine is up and covered in with slate—weather moderate.

TRELEIGH WOOD.—E. Hosking, W. Goldsworthy, Dec. 17: Setting Report: To drive the 56 cross-cut, north of the engine-shaft, by six men and three boys, at 18l. per fathom; the lode as far as seen, which is now about 3 ft. down from the back of the end, is composed of capel, quartz, mundic, and a little tin, and we have no doubt it will improve as we get further north. The 44, to drive east of cross-course, by four men, at 8l. per fathom; the part carrying—4 ft. wide—has a kindly appearance, producing good stones of yellow copper ore, and worth 5l. per fathom for tin. To stope the south side and back of the 44, east of cross-course, by four men, at 6s. per ton, equal to 4l. 10s. per fathom; the lode is 6 ft. wide, worth 8l. per fathom. To stope the north side and back of the 44, west of cross-course, by four men, at 6s. per ton, equal to 4l. per fathom; the lode is 5 ft. wide, and worth 8l. per fathom. To stope the back of the 44, west of engine-shaft and east of Phillips's winze, by twelve men, at 8s. per ton, equal to 8l. 10s. per fathom; the lode is 7 ft. wide, worth 12l. per cubic fathom. To stope the bottom of the 34, east of cross-course, by six men, at 6s. 6d. per ton, equal to 4l. 15s. per fathom; the lode is 6 ft. wide, worth 10l. per fathom. To drive the 34, east of cross-course, by two men, at 12l. per fathom; the lode, or part carrying, is 6 ft. wide, worth 9l. per fathom.

— Dec. 21: In the 56 fm. level cross cut, driving through the lode, we are meeting with good branches of tin of good quality; we hope to have a good lode, as a sample from one of the branches produced 5 per cent. No other change in the mine to notice.

TREVARRACK.—J. Pope, Dec. 22: We are now down in the shaft on the north lode between 3 and 4 fms., where the lode is fully 3 ft. wide, composed of peach, mundic, and soft spar, with occasional stones of tin; a very promising lode. No change in any other part since my last.

VAUGHAN.—Dec. 14: In the deep adit level east the lode is chiefly composed of a light blue clay-slate, carbonate of lime, spar, and gossan, and we daily expect to meet with the north wall, when we hope to make better progress in reaching the engine-shaft. This level during the frosty weather has let the water down in the upper workings about 10 fms.

VRON.—Stephen Harper, Dec. 20: The ground in the 40 yard cross-cut north still continues favourable for progress; the cross-joint is now larger than last week, and we often meet with nice joints of lead, which go to prove that the ground is mineralised; in fact, the ground is all that could be desired for producing lead ores, and I look forward with great expectation of meeting with a good east and west lode; if the ground continues as at present we shall be up to the expected point in about a month or five weeks' time. The water in the mine is falling back slowly; at the engine-shaft the 60 yard level is free from water.

WEST GODOLPHIN.—No alteration since last report.

WEST MARIA AND FORTESCUE CONSOLS.—Wm. Skewis, Dec. 22: West Maria Lode: There is no change to report in the rise in the back of the 93 east, as the men are still going up by the side of the lode. In the 93 west the lode is 5 ft. wide, composed of capel, mundic, and copper ore, but not to value. The lode in the 50 east is 2½ ft. wide, containing a little copper and mundic.—North Lode: The lode at the 60 east is 2 ft. wide, looking kindly, and is worth for copper and mundic 6l. per fathom. There is no change to notice in the Devon Consols lode. The pitches are looking just as usual.

WEST MILWR.—W. Francis, Dec. 22: We are in constant expectation of cutting the Milwr lode. The beds are getting firmer as they approach it, and are of a very fine, congenial character. In consequence of this the progress is not so great as it has been, but is still satisfactory.

WEST ROSKEAR.—H. Stephens, Dec. 22: The lode in the 12, driving west, is 6 ft. wide—good saving work; we are daily expecting to reach the junction with the caunter, when further improvement may fairly be calculated upon. Stephens's shaft will soon be down to the 12, so as to commence driving east and west, and when communicated with the 12, driving west from engine-shaft, it will open out an excellent piece of mineral ground. The adit end, driving west on the caunter, is not so good as it has been, but is still in a good orey lode. Lanyon's shaft is down about 2 fathoms below the adit; here we expect to reach the lode in about three weeks more, when there can be no doubt of having a good course of copper ore. Other placed are much the same as last reported. The engine and pitwork are in excellent condition, and working well.

WEST TANKERVILLE.—A. Waters, Dec. 22: South Boundary: The shaft is 5½ fms. below the 63; ground favourable for progress. The 63 south is worth 1½ ton per fathom. The stope in this level south is worth 1½ ton per fathom. The winze below the 50 south is down 6½ fms.; lode worth 3 tons per fathom. No. 1 stope, in said level south, is worth 1½ ton per fathom; No. 2 ditto, 2 tons; No. 3 ditto, 1 ton per fathom; No. 4 stope, south of ditto, 1½ ton per fathom. Stope in the back of the 46 south is worth 25l. per fathom for lead and blende. There is nothing new to speak of in the old mine. The water is now 1 fm. below the 22, at California shaft, and at the present rate of drainage this part of the mine will be dry in a fortnight from now.

WHEAL CREBOR.—J. Andrews, Dec. 21: No improvement has taken place in the 120 east. The lode in the stope in bottom of the 120 has fallen off in value, and is now worth only 5l. per fathom. In the 108 east we continue to drive by the side of the lode. The lode in the 72 east is 3 ft. wide, composed chiefly of quartz, capel, and mundic. In the 48 east no lode has been taken down for the week, but we shall begin to take it down in a day or two. The lode in the stope in back of the 48 has slightly fallen off in value, and is now 8 ft. wide, worth 30l. per fathom.

WHEAL GILBERT CONSOLS.—James Pope, Dec. 22, In the adit level west the lode is 10 in. wide, good stamping tinstone. In the stope in the back of the adit, east of shaft, the lode is 2¾ ft. wide, good average tinstone. We have commenced a level for ventilation, where the lode is 20 in. wide, good work for the stamps. Nothing yet cut in the adit cross-cut.

WHEAL KITTY (St. Agnes).—S. Davey, R. Harris, Dec. 18: New Shaft, Pryor's Lode: The ground in the 154 cross-cut is harder and letting out water freely, which retards progress, but are pushing on as fast as the nature of the ground will allow. In the 142 fathom level, driving west of shaft, we have met with gossan, which has thrown the lode a little to the south, and for the time, I am sorry to say, lessened its value; it is now worth for tin 14l. per fathom. The lode in the 142, driving east of shaft, is worth for tin 9l. per fathom. In the 142, driving north on the caunter, the lode is worth for tin 8l. per fathom. The lode in the 130, driving west of shaft, is worth for tin 14l. per fathom. The lode in the 118, driving west of shaft, is worth for tin 8l. per fathom. The lode in the winze sinking below the 110 west is worth for tin 14l. per fathom. There is no change worthy of remark in the winze sinking below the eastern adit level. The lode in the 100, driving west of engine-shaft, is 3 ft. wide, worth for tin 8l. per fathom.

WHEAL UNY.—Wm. Rich, Matthew Rogers, Wm. Rich, jun., Dec. 18: Hind's engine-shaft is now in good working order, and forking the water rapidly. The 140 end, east of King's, is worth 7l. per fm. The rise in the 130 east is worth 10l. per fathom. The 120 end east is worth 6l. per fm. The 110 end east is worth 10l. per fathom. The 100 east carries a little tin.

WILLOUGHBY.—Dec. 22: The 23 end, driving south on new lode, has improved a little since my last; there is a strong mixture of lead and blende, with a good deal of spar on the footwall side of the lode, which seems to be a fresh splice of ore ground coming in.—Goddard's Lode: The 23 end driving south is not looking so well as it has been, there being more blende and less lead than last reported, but there is undoubtedly a good course of ore before us here yet. No. 2 stope, south of No. 1 shaft, is producing lead and blende in paying quantities, and we are leaving a better back above us. The winze in the cross-cut north of No. 1 shaft is through to No. 1 stope, and we are now cutting this stope up north of the winze, which is yielding 1 ton of lead and the same of blende per fathom. The 13 driving south is not yet through the poor bed of ground mentioned in my last. The No. 3 winze sinking below the 13 is opening a good course of ore, worth 3 tons per fathom of lead and blende in equal quantities. The stope in the back of the 13, south of No. 4 shaft, is still poor, but will now improve as we advance. The stopes in the 6, south of No. 4, are yielding ½ ton of lead and 1 ton of blende per fathom, with easy ground for stoping. Since the frost left us we have made good progress on the dressing-floors. We sampled 30 tons of blende last Monday, and we are getting well on towards our next sampling of lead.

FOREIGN MINES.

RICHMOND CONSOLIDATED.—Cablegram from the mine at Eureka, Nevada.—Hall, London: Week's run, $46,000. Hoist started to-day.—Rickard.

DON PEDRO.—Telegram from Rio, Dec. 23: Loss for the month (November), 600l.; produce cleaned up (first division of December), 1400 oits.

Letter from mine captains, dated Nov. 23: The water was put in fork on the 20th inst. at 2 P.M. The 35 fm. cross-cut resumed. Samples of general work are improved, but no box work available. On the 19th inst. we communicated the 30 fm. cross-cut to No. 6 stopes driven 9 ft. on the north part of No. 6 shoot, which is very small and very poor. Water drawn from the mine still amounts to 20·57 cubic feet a minute. No increase of surface water as yet. In our explorations nothing new to report.

CHICAGO SILVER.—Telegram from the superintendent of the mine: We have run the two furnaces 20 days, and one furnace for the remaining 10 days. The net profits for the month of November, $14,000.

GOLD RUN.—J. A. Stone, Dec. 4: I have just finished the gravel incline, it being about 230 ft. long. All my work, which I can do before the work of the Cedar Creek Company is completed, is already done. The heavy storms have retarded them very much, but I think they will finish in three or four days, and then I shall lay my pipe at once. I cannot commence washing, however, until the Miners' Ditch Company have washed a day or two, and put on four boxes at the extreme lower end of their sluice, where it empties into Canyon Creek. Were it not that I am obliged to wait for others, I could commence washing in three days; but, as I cannot wash until the Miners' Ditch Company are ready, I think it will be a week, and possibly ten days, before I can begin.

EXCHEQUER (Gold and Silver).—Lewis Chalmers, Nov. 29: It has taken all my horses and oxen and almost all my men last week to get our boiler to the mine, but I am thankful to be able to report all safe, and at its place. This week the teams will haul brick, sand, and clay to set it. All I have, therefore, to report for last week is that the 200 ft. north has reached 320 ft., and that I am now driving it at at $6 per foot by contract, and that the old boilers have been re-caulked, so as to keep us going till the new one is set. The weather is fighting against me. Another snowstorm last night, which continues to day. The boiler-plate, covers, furnace-doors, and bars for the dry kiln furnaces have arrived, and will be put in this week, otherwise the dry kiln is finished. I have just heard from San Francisco that my new 10-stamp battery and connections will be ready in ten days.

MENZENBERG.—R. K. Roskilley, Dec. 22: Dickin's Engine-Shaft: We have nearly completed the cutting of plat at the 45, and on its completion we intended to commence to sink the shaft below this level; but we find it, however, necessary to make some new joints to the steam-pipes of the engine, also cleanse the boiler, &c., so as to put the same into thorough working order before commencing the sinking. As soon as this work is completed we shall at once begin to sink the shaft. In the 45, north of cross-cut, we are still driving by the side of the lode. The stratum here is favourable for progress, and it is presenting a good appearance. In this level, driving south of ditto, we have been carrying a portion of the lode; it has a very promising character, and contains some beautiful spots of yellow copper ore. We have no other change throughout the mine calling for remark.

BENSBERG.—C. Craze, Dec. 20: Victoria shaft has been sunk 2 ft. 3 in. in the last week. There is still a good orey lode in the western end of this shaft, and the ground is not so spare for sinking as formerly; the men are working with good spirits, in the hope of sinking an extra foot or two this month. In the 14, west of shaft, the lode is of the same value as last reported, 1½ ton of ore per fathom. The lode in the rise in the back of this level is not so large as it is in the level itself, and it will produce only about 1 ton of ore per fathom. Looking at the lode here and in the end, we should judge that we are just on the top of the ore ground, and its appearance leads me to hope for a better lode in the next level under this. In the 14, east of this shaft, the lode has a better appearance, and to-day I broke some good stones of ore out of it, but we cannot yet set any value on it. The lode in the winze being sunk to the west of new shaft produces about 1 ton of ore per fathom. Stuff put to dressing, 75 tons, producing 4½ tons of ore of 43 per cent.

LUSITANIAN.—Dec. 14: Palhal: In Taylor's engine-shaft, sinking below the 180 fm. level, the lode is 6 ft. wide, composed of quartz. In the rise against river shaft, in the back of the 150, the lode is mostly of quartz. We have now holed to the shaft, but there is a part of the lode standing below the 140 which has to be taken down. At the cross-cut south of Basto's lode, in the 110, the ground is still hard, but better than it has been.—Levels on Basto's Lode: In the 180, west of Taylor's, the lode is in two parts, each composed of flookan and a little quartz. In the 170 west the lode is 1 ft. wide and very regular, containing stones of ore. The 160 west is full of stuff, which we are now clearing; the lode in the end is poor, as far as can be seen. The 150 east is in a lode 4½ ft. wide, but of no value, being composed of loose and hard quartz. In the same level west the lode has improved in regularity, and gives small stones of ore. The 90 and 70 levels, east of river shaft, are now being cleared of the stuff that has accumulated. In the 28 east the lode is 5 ft. wide, composed of quartz and spots of lead. In the 50, west of Taylor's and west of the slide lode, the lode is small, and at times has spots of lead in it.—Mill Lode: In the 70, east of river shaft, the north part of the lode has good stones of lead in it, but the south part is poor. The caunter lode in the 150, west of Taylor's and west of the slide lode, is 8 in. wide, yielding stones of ore.—Carvalhal: The south branch in the 60 cross-cut proves to be poor, and has been abandoned. The north branch is very small, but has spots of lead in places. In the 30, north of great lode and west of incline shaft, the lode is 1 ft. wide, well defined, composed of a little quartz, a great deal of mundic, and faces of lead and blende.

MINING IN AUSTRALASIA—MONTHLY SUMMARY.

SOUTH AUSTRALIAN MINING ASSOCIATION.—The report of the Burra Burra Mines shows that during the half-year ending Sept. 30, 922 tons of 24⅝ per cent. copper ore have been raised. The net profit has been 2990l. 16s. 11d., which increases the total credit balance to 14,763l. 18s. 7d., and the directors state that "after making provision for all outgoings, including the expenditure of upwards of 3000l. incurred during the last half-year in works connected with the future development of the mines in depth there is a total profit remaining of 13,870l. 17s. 2d." Captain Saunders has introduced some improved dressing machinery, by means of which he has been enabled to treat stuff that otherwise would not have paid, and to dress ores to a much higher percentage than usual, besides effecting a reduction in the cost. There has been the large quantity of 39,532 tons of haulage work done during the half-year; the machinery is stated to be in good order and working well, and the establishment consists of 274 men and boys. Operations are proceeding to prove the mines at a greater depth, and the directors are hopeful that they will lead to valuable discoveries of ore. The assets are set down at 32,616l., of which 26,383l. stands for the fixed machinery and pitwork, while the freehold property is valued at 35,937l. The sums due to sundry creditors and wages to workmah do not amount to more than 7090l.

THE MOONTA.—Captain Hancock is using a boring apparatus in searching for lodes, and the local paper says:—Whether this method is completely successful is as yet undetermined, but the experiments already made are of a highly favourable character. The borer is simply a large screw auger, worked by two men with levers, attached to a sort of capstan arrangement. A hole 12 ft. deep can be bored in ten minutes. To sink a costeening hole the same depth would occupy two men a day, so that as far as mere penetration is concerned, without reference to the area of ground uncovered, the borer has the advantage. The newly discovered lode near the township is not looking so well as before; the ground is moderately easy for sinking, but unfortunately the ore has died out. The lode is still strong in character, and an improvement is anticipated. The new lode in the cross cut west of Taylor's is still turning out good yellow ore mixed with mundic. At Hughe's, in the 100, the lode is of large size, yielding yellow ore intermixed with quartz. Fair quantities of ore are being obtained at the 85 as well as at other workings in connection with this shaft. At Treuer's, the lode in the bottom end is not looking so favourable as could be wished. The winding-gear connecting the shaft with Elder's engine answers all requirements. The water in the new shaft at Green's is now raised from the 100 by Hancock's engine. This shaft also drains the water from the workings connected with Green's, Bower's, and Simpson's shafts. At Fergusson's the work is progressing much as usual, Quantities of rich ore are being sent to grass. The lode in the deeper workings is not so productive as in those above.

AUSTRALIAN MINES.

YORKE PENINSULA.—The directors have advices from the committee of inspection at Adelaide, dated Nov. 3, with reports from the Kurilla Mine to Nov. 2. Capt. Anthony reports—The Kurilla Lode: Since my last monthly report the winze from the 25 to the 55, east of Hall's shaft, is holed, and the men have since driven 3 fms. on the course of the lode in the 35. At first the lode was hard, and composed for the most part of quartz, with iron pyrites, and the presence of copper ore. Since then the quartz has almost disappeared, giving place to soft clay-slate, with a great deal of pyrites, and small boxes of rich coated ore; on the whole, a decided improvement has taken place. I have resumed driving the 25, east of Hall's shaft, where the lode is worth 3 tons of 15 per cent. ore per fm. This drive is now getting under the ore driven over in the 15, and which, although it did not hold far up in the back of the level, was worked out by tributers at 8s. in 1l. I have about 7 fms. to drive in the 35 to reach a point vertical to which I first met with ore in this (25) level. At the cross-cut, east of Hall's shaft at the 25, I have driven across a series of walls, having the appearance of the terminal walls of a lode, but they are still continuing to occur, intermixed with quartz, felspar, chlorite, and copper ore. This drive should reach Anthony's lode in another 2 fms.; I regard the indications as good. At the 25, east of Hall's, and just at the point where the ore first occurred, finding water containing copper in solution issuing from the south wall of the drive, I put my two prospectors to cut into the side. After driving a full fathom, no terminal wall is met with. The produce of the drive is veinstuff, containing good stones of ore. Not having seen the south wall of the lode anywhere east of this point, it would appear that the lode is much larger than was at first supposed. The 15 cross cut, from the Kurilla lode towards A shaft, is now within about 8 ft. of Anthony's lode; driving by two men, at 8l. per fathom. There is a pitch being worked by two men at 8s. in the 9 fm. cross cut, from this (the Kurilla) lode, so that I hope to find paying ground on cutting the lode (Anthony's) at the 15. All well, the hauling shaft will be completed to the 25 and be ready for hauling at the end of the present month, when all the stuff now being removed for discharge through Hall's shaft will be discharged through it. At present two men are working on tribute in the 35 at 10s., two at the 25 at 10s., and four in the 15 at 8s., or eight men at an average of 9s. in 1l. As soon as the hauling shaft is complete I shall set a good pitch in the 25, and some of the old pitches will not remain idle long. In three months from now the tribute works on this lode will begin to assume a more permanent aspect.—Morphett's Lode: I think the time has come when an effort should be made to explore this lode below the 10. In support of this, I beg to call attention to the following facts: The 10 is driven from within about 12 ft. of the Devon boundary 56 fms. west, through a lode that has hardly been destitute of ore for a single fathom, and in some places producing high-quality ore in paying quantities; 130 tons of ore of 12 per cent. have been raised above the bottom of the 10. Two pitches are now being worked in the bottom of the 10—one by two men at 10s., and one by two men at 8s. in 1l.—the latter making more than double wages; and another pitch in the bottom is applied for. Besides these, two pitches will be laid open between Nos. 4 and 5 trial shafts. Since my last monthly report I have sold 21 tons 7 cwts. 1 qr. of ore, realising 320l. 12s. 7d.; this is in addition to the 70 tons of low-quality ore mentioned then. About 65 tons are now at the works, and about 85 tons on the mine—these 150 tons, I hope, will realise 9l. per ton, or 1350l.

SCOTTISH AUSTRALIAN.—The directors have advices from Sydney (Oct. 30), with reports from the Lambton Colliery to Oct. 27. Mr. Morehead, the manager, writes—There is no monthly statement of shipments of coal to be forwarded by this mail, a calendar month not having come to a close since I last wrote to you; but I would mention that we continue to find a demand generally fully equal to what we can supply. The general trade of our norther collieries, it will be seen from the progress returns transmitted, is still well maintained.

AUSTRALIAN CENTRAL (Gold).—Mr. Gill (Nov. 3) writes:—I stated in my last report that I anticipated to be in a position to give you the result of a trial machine or two from the newly-discovered tributory. The heavy body of water we have to contend with just at present necessitates great caution in breaking up into wash-dirt from the jump-up shaft for fear of accident to the men or damage to the mine. This has now been accomplished with safety, and I hope to have 12 men at work following the course of the gutter by the end of the current week. Gold of a coarse nature can be freely seen in breaking ground, and everything looks well as regards the future of the mine. Regarding the burst of top or rock water and sand, of which we have had a succession now of nearly three weeks past, such must be expected in new ground, and in one sense are advantageous rather than otherwise. Occurring now they drain the ground rapidly, with but little damage to the workings, compared to what would be the case when the "opening out" is in a more advanced state, or "blocking" going on. The men were withdrawn from the faces, and the ground well secured. Both water and sand are daily decreasing, and I hope by the end of the week to be able to resume work in the eastern ground. The only drawback is the non-production of gold for the time being to meet the surface and other expenses. By the next mail, if no *contretemps* occur, I shall be in a position to afford definite information as to the new ground, the upper level drives will be extended some considerable distance, and the course and extent of the gutter more clearly defined.—Capt. Anguin (Nov. 1) writes: During the last four weeks we have extended the bottom level 60 ft., making a total of 120 ft., put up a jump-up shaft, and struck the wash dirt at 13 ft. Have now commenced to open out on top of the jump-up shaft. Wash-dirt coarse, and showing gold freely. I have not the slightest doubt as to the future prosperity of the mine. I have to inform you that a heavy and continuous burst of water and sand has taken place in the eastern ground, and I was compelled to knock the men off from working; consequently no gold has been raised for the past fortnight, which has proved a drawback for the present, although eventually it will do good by lightening the ground, &c. The water is now lessening considerably, and I hope shortly to be able to clear out the sand from the upper drives and recommence work. I may state that we have payable ground in all portions of the mine opened out, but the western ground we are now opening is by far the best.

ANGLO-AUSTRALIAN (Gold).—Capt. Raisbeck (Nov. 3) writes—Prospecting Shaft: We have had six men working in the stopes; have broken and crushed 86 tons of stone—result, 38 ozs. 13 dwts. of retorted gold. I have also 30 tons in the mill ready for crushing. There is very little alteration in the character of the stone in the stopes; but in extending the north drive we met with a strong cross lode, which apparently cut off the quartz. Seeing the nature of this stone, and the probable effect it would have upon our quartz, I put in a small drive 30 ft. long at an angle of 20° east of north, when we struck the quartz again north of the cross-lode, it having heaved the quartz that distance. I have driven 15 ft. upon it, the stone is small as yet. We have had a little trouble with the engine; the piston is holed through, but we have had it repaired. It will take another week at intervals to put it in good working order. We have crushed for the public during the month 28 tons of stone.

PORT PHILLIP AND COLONIAL GOLD.—Nov. 2: The quantity of quartz crushed for the four weeks ending Oct. 6 was 3381 tons; pyrites treated, 20 tons; total gold obtained, 906 ozs. 12 dwts., or an average per ton of 5 dwts. 8¾ grains. Receipts, 3734l. 1s. 10d.; payments, 3100l. 3s. 10d.; profits, 633l. 18s., added to which was last month's balance of 1463l. 3s. 4d., making an available balance of the sum of 2097l. 1s. 4d. The amount divided between the two companies was 800l., the Port Phillip Company's proportion of which is 520l. The balance of 1297. 1s. 4d. was carried forward to next month's account. Remittance, 520l.

ENGLISH AND AUSTRALIAN (Copper).—Advices dated Nov. 6: The stock of coal on hand and afloat was about 3480 tons. All the furnaces both at Port Adelaide and Newcastle were in full work. The quantity of copper shipped since date of last advices was 338 tons, including about 150 tons then in course of transhipment.

THE SUNNYSIDE MINING COMPANY.

In the present state of Cornish mining it is very agreeable to perceive that new enterprises are opening up in connection with mining in other parts of the country. The company bearing the above designation is formed for working an existing lead mine in the county of Durham, so famous for its collieries and iron mines, and destined to win also a high reputation for its production of lead. This is a metal of which we are large importers, and contrary to the course of the metal trade in all other departments, we export none of the imported commodity. We consume all we receive; our exports are of British lead, and our requirements for both must increase rapidly as soon as the spring sets in, for never in the history of England was there so great a prospect of prosperity in the building trades. Even now, although the depth of winter is upon us, the work of pulling down old buildings is proceeding, and in many cases men are at work in the erection of those destined to replace them. In some cases large parts of streets and entire streets are being razed, and as soon as the weather permits the work of dilapidation will spread, and that of creating new ones will set in rapidly. Besides this public buildings are arranged for all over England, more especially in London. For all these works lead will be required in large quantities, especially for pipes, roofing, and plumbing generally, so that there never was a period, it may be said without exaggeration, when the prospects of a lead mining company were better, especially as the present supply produced and imported will be utterly inadequate.

The prospectus of the company states that the amount raised in the United Kingdom in 1873 was 73,500 tons. From the more recent statistics of the Government we learn that in 1874 there were raised 76,201 tons. But taking the whole course of years from 1860 to 1874 it appears that in the year selected in the prospectus the smallest quantity was produced; the largest was in 1870, when it was 98,176 tons. In fact, the yield has been diminishing, not because there is less lead in the mines, but from various other circumstances. Hitherto the entire mining interest has had to bear the undivided discredit of the occasional irregularities of some who have at times attempted to further their own personal purposes, without regard to the fundamental principles of truth and honesty, and the whole industry has been unjustly placed under a cloud in consequence of exceptional proceedings which were not of a legitimate nature.

It is an encouraging feature in the history of British lead productions that the price has increased as the quantity raised has decreased. In 1873 and 1874 lead brought on the average 15l. per ton, whereas in 1872—that year of memorable prosperity—it fetched only 13l. 13s., and in 1870 still less, 12l. 4s. 6d. Next year the prices must in in the nature of things be higher than it has been for the last 15 years. It is at the same time encouraging to the lead miner that in the market this is the steadiest of all metals, never subject to the disheartening fluctuations or sudden rise and depression which takes place in other metals, so that he is always sure of a profitable return.

The Sunnyside offers that to the investor now. It is not a new project: the mines are there and at work, but it is a new company proposing to work under very far more favourable auspices. The mineral ground worked is rich with lead, but a large area of ore ground still richer of lead and also of iron remains to be opened up, the wealth of which has not only been predicted by experienced geologists, mineralogists, and mining captains, but it is obvious to any observer in the least acquainted with such matters. The death of a partner in the concern gives the company an opportunity of entering upon this valuable property, which has been made over to them on most reasonable terms. The lease extends to the year 1905, comprising all the lead, iron, and other minerals found under the surface of the estate, with shafts, sumps, levels, drifts, works, ways, and appurtenances, in fact, buildings and machinery of great value. All the valuable veins in the district pass through the royalty, and the whole property is such that a moderate yield would pay. The capital, although moderate, is only sufficient—32,000l., in 16,000 shares of 2l. each, and we are glad to see that the shares are to be fully paid-up. This is the true way to go to work in such an enterprise. Viewing all things with an impartial judgment the Sunnyside Mining Company has a brilliant prospect, and offers to capitalists a most eligible investment.

CORNISH PUMPING ENGINES.—The number of pumping-engines, reported for November is 16. They have consumed 1703 tons of coal, and lifted 12,400,000 tons of water 10 fms. high. The average duty of the whole is, therefore, 49,200,000 lbs., lifted 1 ft. high, by the consumption of 112 lbs. of coal. The following engines have exceeded the average duty:—

Crenver and Wheal Abraham—Sturt's 90 in.	Millions	54·2
Ditto ditto —Willyams's 70 in.		72·6
Dolcoath—85 in.		56·1
West Basset—Thomas's 60 in.		57·0
West Wheal Frances—58 in.		54·2
West Wheal Seton—Harvey's 85 in.		52·7

DIED, at Douglas, Isle of Man, on Dec. 13, aged 47 years, Captain JOHN CORNISH, and at a recent meeting of directors of the Great Laxey Mining Company a special minute was recorded that—"The directors are grieved to record the painful fact that Capt. John Cornish, when supposed to be recovering from his illness, was suddenly taken worse on Monday morning, and died about 10 o'clock that forenoon. The directors feel that the company by his death have lost a faithful, energetic, and most efficient servant, and that the present prosperous state of the mine is greatly owing to the ability and perseverance of Captain Cornish, who had succeeded in establishing a system of management far superior to anything previously known at Great Laxey. The directors, whilst regretting their own loss, desire to express their deep sympathy with the widow and family who have sustained such an irreparable loss."

The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—London, Dec. 23, 1875.

Iron.	£	s. d.	£	s. d.
Pig, gmb, f.o.b., Clyde..	3	3 6–	—	
,, Scotch, all No. 1 ...	3	3 0–	3	15 0
Bars, Welsh, f.o.b. Wales	6	10 0–	7	0 0
,, ,, in London.	7	12 6–	—	
,, Stafford., ,, .	8	15 0–10	5	0
,, in Tyne or Tees ...	7	0 0–	—	
,, Swedish, London ..	15	10 0–	—	
Rails, Welsh, at works..	6	5 0–	7	0 0
Railway chairs	—	—	—	
,, spikes	—	—	—	
Sheets, Staff., in London	11	5 0–12	15	0
Plates, Staff., in London	10	15 0–12	10	0
Hoops, Staff.	9	15 0–10	5	0
Nail rods, Staff. in Lon.	8	15 0– 9	10	0
Steel.				
English, spring	16	0 0–25	0	0
,, cast	35	0 0–50	0	0
Swedish, keg.....	18	10 0–	—	
,, fag. ham.	21	0 0–	—	
Lead.				
English, pig, common ..	22	5 0–	—	
,, ,, L.B.	22	10 0–	—	
,, ,, W.B.	23	10 0–	—	
,, sheet and bar..	23	10 0–23	15	0
,, pipe	23	15 0–24	0	0
,, red	24	0 0–25	0	0
,, white	28	0 0–29	10	0
,, patent shot ...	26	5 0–26	10	0
Spanish.....	21	15 0–	—	
Spelter.				
Silesian or Rhenish, in English port ..	25	0 0–	26	0 0
English, Swansea	26	0 0–	—	
Sheet zinc	31	0 0–	32	0 0

Tin.	£	s. d.	£	s. d.
English, ingot, f.o.b ..	83	0 0–	86	0 0
,, bars ,, ...	86	0 0–	87	0 0
,, refined.....	89	0 0–	—	
Australian	80	10 0–	—	
Banca	88	0 0–	—	
Straits	81	0 0–	81	10 0
Quicksilver.				
Flasks of 75 lbs., ware.	10	12 6–	10	15 0
Copper.				
Tough cake and ingot.	86	0 0–	87	0 0
Best selected	87	0 0–	88	0 0
Sheets and sheathing .	93	0 0–	—	
Flat bottoms	97	0 0–	98	0 0
Wallaroo, in wareh....	90	0 0–	—	
Burra and Currawang	89	0 0–	—	
Other brands	86	0 0–	88	0 0
Chili bars	81	0 0–	82	0 0
Brass.				
Wire	9¼d.–		—	
Tubes.....	9		–12d.	
Sheets	9		–10	
Yellow metal sheathing ...	7¾		– 8¼	
Nails composition.....	9½		–10½	
Tin-plates.*	per box.			
Charcoal, 1st quality ...	1	9 0–	1	10 0
,, 2nd quality ...	1	5 6–	1	7 6
Coke, 1st quality	1	3 0–	1	4 0
,, 2nd quality	1	1 6–	1	2 0
Black .....per ton	17	0 0–	17	10 0
Canada, Staff. or Gla., at Liverpool	15	0 0–	15	10 0
Black Taggers, 450 of 14 × 10	30	0 0–	—	

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; IX 6s. per box more than IC quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

Remarks.—The business of the week offers no new feature of interest. Actual transactions are very limited, both as regards number and quantity. There being so little inducement to enter upon fresh engagements, merchants are more disposed to take stock of the past and lay out plans for the future than act in the present. Lord Derby, in one of his speeches in Scotland a few days ago, enlarged upon the falling off of the trade of the country, and it could not be gathered from what fell from his lordship that he felt particularly sanguine as to the speedy restoration of a period of healthy activity. The close of this year, and the opening of the next, will, probably, be unmarked by any change of importance; and, if it be a matter of condolence that the operations of the past year have not resulted in more positive profit, it is a matter of congratulation that the actual losses have been so comparatively limited. The Bank rate still stands at 3½ per cent., to which it was reduced on the 18th.

Copper.—The copper market hangs fire. Very little business has been done during the week, and there is not the slightest appearance of any improvement. Chili bars are quoted 81*l.* 10s., usual cash terms. Urmeneta has changed hands at 81*l.* 15s. for arrival, and Wallaroo at 90*l.* 10s. for cash. Burra is quoted 89*l.* to 89*l.* 10s. English tough, 87*l.* to 88*l.*; best selected, 88*l.* to 89*l.*; India 4 by 4 sheets 93*l.*, and strong sheets, 95*l.* The enquiries for manufactured for the Indian and other markets have fallen off very seriously, and it is questionable whether if even a reduction in quotations could be effected any inducement would thereby be held out to buyers to come into the market. Yellow metal sympathises with copper, there being little or no demand at present.

Iron.—It would be a very agreeable change were it possible to venture to anticipate that the coming Christmas would prove a season of festivity and gladness in the iron districts of this country; but it would be but mockery to express such expectations. Already the distress is very general, and as the year wears on towards the close, and there is no improvement whatever to record, the distress becomes more wide-spread, and the suffering more intense. The iron trade has not been in so distressing a condition for years as it now is; indeed, perhaps never before were things so bad, and there are no indications of improvement. The shipments of iron from South Wales to foreign ports during last month were only 6165 tons in all, of which 3986 tons were shipped from Newport, 2069 tons from Cardiff, and 110 tons from Swansea. The report from the North of England, so far as pig-iron is concerned, continues satisfactory; and, owing the briskness of the demand, prices are very firm, and a considerable business is being transacted. The attendance at the weekly meeting of ironmasters, held at Middlesborough on Tuesday last, was good. There is not usually much doing at this time of year, but, the demand for pig-iron being fully maintained, this market was unusually active, and prices show an advance upon previous quotations. The demand is more than sufficient to prevent any accumulation of stocks, and at the present moment there is barely ten days' stock in makers' hands. During the last week some 6000 tons have been shipped coastwise for Scotland; and the Lancashire and Staffordshire markets have taken more than the usual quantity.

Quotations for pig iron are as follows:—No. 1, 56s.; No. 3, 51s.; No. 4 forge, 49s. to 49s. 6d. There is very little business being done for forward delivery. Too much uncertainty overhangs the future to admit of either makers or buyers de-iring to commit themselves. The existing business has reference to speedy deliveries. The Christmas holidays may probably witness some increase of stocks, as sales may not be so brisk just at this season, and attention may be more especially directed to stock taking. There is no improvement to record in the position of the finished iron trade of the district. Hoping almost against hope that things might improve to some small degree, a few of the masters who had stopped their mills because of the dulness of trade have put them in motion once more, desiring to afford employment to their hands, but they have not received orders sufficient to encourage them to persevere in carrying on the works, and it is feared that these works and others also will stand idle during the winter. Both in the rail department and in merchant bars there is very little doing. The only department of the finished iron trade which is exhibiting any animation is that connected with iron ship-building. There is more enquiry for plate now, and the prospects for the future are certainly more encouraging both on the Clyde and Tees, and doubtless the Tyne and Humber come in for their share. If the wages question were to be brought during this winter to a satisfactory solution, and the spring season were to open with a renewal of mutual confidence between masters and men, it would do much towards the removal of the greatest obstacle to a revival of activity in the iron trade.

A meeting was held during the week at the Westminster Palace Hotel, Mr. I. Lowthian Bell, M.P., in the chair, with a view of forming an association to be called the "British Iron Trade Association, the object of the same being to deal with the commercial aspect of the trade in its imperial bearings." Several gentlemen of influence attended the meeting, among whom were—Mr. R. H. Heath, M.P.; Mr. B. Samuelson, M.P.; Mr. J. T. Smith, Barrow; Mr. H. Bleckley, Warrington; Mr E. Fisher Smith, Dudley; Mr. Clark, Dowlais; Professor Forbes; and Mr. William Fowler, Leeds. The meeting being agreed upon the desirability of forming the association, it was resolved—First, to secure a means of communication between members of the iron and steel trades of Great Britain upon all matters bearing upon the commercial interests of those industries; second, to procure and circulate detailed statistics of the iron and steel trades, both at home and abroad; third, to attend to all matters connected with foreign tariffs, commercial treaties, and home parliamentary business that may have a bearing upon the position of the iron and steel trades, excluding questions of the regulation of wages or of a purely local character, and generally to take all proper measures for advancing the interests of the British iron and steel trades in all their branches. An interim board of management was elected, the names of several gentlemen of influence in the trade being included, who were requested to submit a list comprising 36 members to the next meeting of the association, which it was agreed should be held in London during the first quarter of the ensuing year. The first president of the association is Mr. Clark, of Dowlais, who was unanimously elected to the chair. Mr. Newmarsh, treasurer, and Mr. John Jones, of Middlesborough, secretary.

The transactions recorded in connection with the Scotch iron market during the past few days show a brisk trade in pig metal. On Monday a large business was concluded in warrants, at 62s. 6d. to 63s. 3d., the market closing at the best. On Tuesday prices strengthened, and an important business was concluded from 63s. 3d. to 63s. 6d. cash, and 63s. 6d. to 63s. 9d. one month. There were buyers at the close at the highest quotations, but sellers were demanding 1½d. per ton more. Yesterday a further advance was effected, and pigs were freely dealt in at 63s. 9d. cash; 500 tons were reported to have been sold in this market at 64s. cash. To-day the market is firm, and the price at closing was 63s. 10d.

Shipments.

Week ending Dec. 18, 1875..... Tons	8,156
Week ending Dec. 19, 1874	7,324
Increase	832
Total increase for 1875	82,468

Lead.—The market continues firm, and good soft English pig is quoted 22*l.* 5s. to 22*l.* 10s., and soft Spanish, without silver, 22*l.*

Spelter.—There is no change in this metal, which is steady, at 25*l.* 5s. to 25*l.* 10s. for Silesian.

Quicksilver.—The market has a falling tendency. The official quotation is 10*l.* 15s., but parcels are obtainable from second hands at 10*l.* 12s. 6d.

Tin.—Straits opened firm at the beginning of the week, and business has been done at 81*l.* to 81*l.* 10s. cash, and throughout the week this quotation has been maintained, but without much doing. Australian, 80*l.* 10s., and English ingots 84*l.* to 85*l.*

Tin-Plates.—The market shows a slight improvement, but the prices obtained are not such as to afford much encouragement to tin-plate makers.

The Iron Trade (Griffiths's Weekly [Report).—Dec. 23.—We have to report an advance of 1s. 3d. per ton in Scotch pig-iron this week. The price on Friday last at the close was 62s. 7½d., warrants, buyers. The price this day (Thursday) at the close on the Glasgow Exchange was 63s. 6d. to 64s. cash; open time in proportion. Makers' iron very firm indeed. We cannot look into the retrospect of the past year without bringing to memory the misfortunes and disasters of the iron trade. When we say disasters, if it is borne in mind that we have lived two years through a falling market of no ordinary kind, the failures in the trade have been comparatively insignificant, for we have not had more than three or four failures of large dimensions in the trade, one in Wales being the most serious, and in its results the cause of two others. One of these was promptly and honourably resuscitated, and the credit of the sufferer, we are pleased to say, in this city is as good as ever it was, and deservedly so, too. It is true that the strain on the Middlesborough district among the manufacturers is now and for months past has been very great, and no wonder that this should be so in presence of the present depressed state of the market, but even here it is a source of congratulation to know that the smelters are all strong, and numbers of them wealthy.

The trade is better at Barrow and right along the West Coast, and prospects are brighter for Bessemer iron next year. The mineowners of Barrow, Millom, and Whitehaven had two years since a profitable time of it. Profits, however, on the precious ores of the Whitehaven district are now reduced to zero. We hope soon to hear that miners' wages are reduced, so that these ores can be raised in larger quantities, which will improve our trade by improving our quality, and, in some measure, recoup the mineowners for their losses arising out of the present depressed state of the trade.

In South Wales the makers have had a bad year. With the exception of Llynvi, Tondu, and Ogmore, the Cwm Bran Works of the Patent Bolt and Nut Company, and Blaenavon, all the works are moving from hand to mouth only, as regards the supply of orders, and the prospects of the spring trade are discouraging in the highest degree. The very different character of the specialities created at Sheffield affords steady demand for Lilleshall and Bessemer pig-iron, and from all we can learn the spring trade for Sheffield looks more promising. Referring to Warrington, oddly enough, the works always run regularly here. We never hear of any misunderstanding with the workmen. This has been, without doubt, the most prosperous iron centre in England during the last three years. One of the works here turn out upwards of 50,000 tons of finished iron a year.

Staffordshire and Shropshire, the oldest iron centres in England, have been entirely free from failures, and almost from losses by others, and the works, with the exception of Warrington, have for the last three months been better off for orders than any other district. The drawback here is diminished profits arising from the high price of coals. For the present however, these is no help for this, coal being very scarce, and as the quality of Staffordshire encourages the demand in preference to those of other districts, people are paying more money in order to get it, and hence the constant supply of orders at both ends of the county. It is pleasing to observe while on this subject that the iron made in North and South Staffordshire maintains its position in this market, and the bars, hoops, and boiler-plates sent here from both ends of the county are giving increased satisfaction to our merchants and engineers on the banks of the Thames.

The tin-plate trade, on the whole, has been unsatisfactory all the year, with the exception of a spurt a month since, orders having flagged, but we are now glad to give a word of encouragement to our friends in this trade, particularly in Wales, who have worked hard all this year for very small profits. We said last week under this head, and with more confidence we repeat it this week, that tin-plates have touched the lowest point, and the next change in price will certainly be to the advantage of the makers.

Messrs. Vivian, Younger, and Bond—Copper: Chili bars have been in steady demand during the week, with sales of good ordinary and picked brands at 81*l.* 10s. to 82*l.* 15s. There are rather freer sellers at the close, and buyers are not eager as the holidays approach, and also the usual time for taking stock. Wallaroo and Burra have commanded about 10s. advance, with sales at 90*l.* 10s. and 89*l.* to 89*l.* 10s. respectively. The demand for English continues sluggish, particularly for manufactured.—Tin: Foreign has been in limited demand throughout the week at 81s. to 81s. 6d. for Straits, and 80s. to 80s. 6d. for Australian. The shipments for the first-half of the current month from the Straits are advised by cable as 330 tons, and it still thought not improbable that disturbances now going on in that quarter may later on have some influence on the supplies of tin.—Lead again firmer, with advancing prices.

Messrs. James and Shakspeare—Copper: No sale has transpired either in ore or regulus since the 17th instant. Bars show a reaction of about 10s. per ton from the values lately paid; but the quantity offered for sale is moderate, and chiefly confined to ordinary brands, special and picked marks being exceedingly scarce. There seems to be but little doubt that the Esk (chartered direct for Havre, with about 500 tons on board) is really lost, and this may have some influence on quotations, when all doubt on this subject is removed. Australian meets with more enquiry. Orders, however, are still limited at too low figures to permit of execution, except in rare instances. English remains quiet, but smelters show no inclination to give way in price as consumers are believed to be only barely supplied for next year.—Tin: The enquiry for English is steady, and quotations remain without change. Foreign descriptions show no alteration in value, but it would seem that operators for a fall are desirous of closing their accounts, as forward parcels, both of Straits and Australian, have lately sold at and slightly above cash values.—Lead: The late advance is well maintained, and Spanish is again a little dearer, there being an evident withholding of supplies from the other side. —Spelter: This article is very scarce, and the market has an upward tendency. —Quicksilver has dropped another 20s. per bottle, but these frequent changes do not excite much attention, buyers being now accustomed to the rapid fluctuations which sometimes take place to the extent of 2*l.* to 3*l.* per week.

Messrs. French and Smith—Copper is slightly better, but there is no great amount of business doing, buyers no doubt waiting for the new year. —Tin continues steady. There is very little now offering for forward delivery. The latest telegram from the Straits does not promise so speedy a settlement of the disturbances there as was expected.—Lead continues firm, with a tendency still to rise. Spanish is scarce. Rich silver-lead, Newcastle, has realised 22*l.* 7s. 6d. —Quicksilver is lower, quotation 10*l.* 15s.

Messrs. Sanford and Bird—Copper: The demand for manufactured is good for the time of year, and prices remain firm.—Tin: Notwithstanding the limited business done during the past week, prices have kept very steady, and close firm as annexed.—Tin Plates: There is still a steady demand, which keeps makers fairly well-employed, and for known brands higher rates are obtainable.—Lead is firm.—Sheet Zinc is steady.

Messrs. Fry, James, and Co.—The variations of the last 14 days have been remarkably slight, and indicate a moderate rate of business of a sound character.—Copper found a sufficient demand early in the month to induce holders of foreign to demand advanced prices; this had the effect—so many times recently experienced—of checking business for some days, but by a little mutual concession buyers and sellers have been able again in the last few days to operate to a fair extent.—Iron has developed no new feature, the want of life remaining prominent.—Tin has held its course very steadily, but there has been a dearth of business, which shows no present sign of change.—Spelter is in fair demand, and prices continue moderately firm.—Lead has become dearer from improved demand. Some makers are unable to quote for immediate delivery.—Tin-Plates are commanding a rather more ready sale at better rates.

Chemicals, Minerals, and Metals—(Messrs. J. Berger Spence and Co., Dec. 22)—Soda: Cream caustic, 60 per cent., 12*l.* 5s.; white, 60 per cent., 12*l.* 15s.; soda ash, 1⅞d. to 1 15-16th; soda crystals, 4*l.* 15s.; bi-carbonate, 11*l.* 15s.; salt cake, 2*l.* 17s. 6d.; Glauber salts, 3*l.* 5s.—Bleaching Powder: At 7*l.* 2s. 6d.; for the whole of 1876, 7*l.* 15s.—Alum: 7*l.* for loose lump; ground, 7*l.* 15s.—Aluminous cake, 5*l.* 15s.—Nitrate of Soda: 11s. 6d.—Ammonia: Sulphate, grey, 18*l.* 2s. 6d.; white, 18*l.* 7s. 6d.; carbonate, 5*d.*; muriate, 30*l.*; sal ammoniac, firsts, 45s.; seconds, 44s.—Potash: Muriates, 80 per cent., at 6*l.* 5s. to 6*l.* 7s. 6d. f.o.b.: Prussiate, red, 2s. 3d.; yellow, 12d.; chlorate, 9d.; bichrome, 6d.—Iron Salts: Green and rusty copperas, 55s.; in casks or barrels, 60s.—Copper Salts: Sulphate of copper, 25*l.* 10s.—Litharge: Best flake, 24*l.* 10s.—Sugar of Lead: Brown, at 26*l.* 5s.; white, 40*l.*—Acid: Tartaric, English, at 1s. 6d.; foreign, 1s. 5½d.; oxalic, 5d.; sulphuric, 3*l.* 10s. to 3*l.* 15s.; carbolic, No. 1, 1*l.* 6d.; picric acid, 1s. 10d. per lb.—Arsenic: 13*l.* 15s.—Magnesia: Epsom salts, 3*l.* 17s. 6d.; refined, 4*l.* 10s.—Esparto: Oran, fair to best, 7*l.* 10s. to 8*l.* 5s.; Susa, fair to good, 8*l.* to 8*l.* 15s.; Spanish, fair to best, 9*l.* to 10*l.* 10s. per ton; Tripoli, good to ordinary, 5*l.* to 6*l.* per ton.—Brimstone: Best thirds, 7*l.*—Phosphate of Alumina, 3*l.* to 3*l.* 10s. per ton.—Pyrites: Spanish cupreous, 5½d.; non-cupreous, 6¾d.—China-clay: 15s. f.o.b. Cornwall; best quality, 24s.—Phosphates: High strength, 80 to 85 per cent., 1s. 4d. to 1s. 5d. per unit; Estremadura, 1s. 3d.; ordinary, 60 per cent., 1s.; precipitated phosphate of lime, 70 per cent., 5*l.* 15s.; super-phosphates, 80 per cent., soluble, 3s. 6d. per unit; 25 to 26 per cent., 3*l.* 10s. —Manganese: Ores, 100s. to 110s. for 70 per cent.—Globe steam boiler powder, 20s. per cwt. in casks.—Iron Ore: Hematite, 15s. to 22s. 6d.; puddling, 24s. to 27s.; oolitic, 8s. to 10s.; Algerian, 50 cent., 23s. to 24s., c.f.i.U.K.—Iron: "Ayresome" Yorkshire pig iron; No. 1, 54s.; No. 2, 51s.; No. 3, 50s.: No. 4 (foundry), 49s. 6d.; No. 4 (forge), 49s., net cash, or 1s. extra four months' bills; G.M.B. No. 1, 53s.; No. 3, 50s. 6d.; No. 4 (foundry), 49s. 6d.; No. 4 (forge), 49s. 6d.; Scotch pigs (warrants), 63s. 6d.—Staffordshire bars, 9*l.* to 10*l.* 15s.; hoop iron, 10*l.* to 10*l.* 5s.—Copper: Chili bars, 81*l.* 15s.; B. S. ingots, 88*l.*; tough cakes or bars, 87*l.*—Tin: Straits, 81*l.* 10s. to 82*l.*—Tin-plates: Charcoal, I C., 27s.; coke, I.C., 23s. 6d. per box.—Lead: Best English soft pig, 22*l.* 10s.; "Panther," 22*l.* 17s. 6d., delivered Manchester.—Antimony: French Star, 59*l.*—Spelter: Silesian, 26*l.* English, 25*l.* 5s. to 25*l.* 10s.—Sheet Zinc: N. 6, 31*l.* 15s.; N. 7, 30*l.* 15s.; N. 8, 29*l.* to 29*l.* 10s.; N. 9, 29*l.* 10s., c.i.f., Hull or Liverpool.—Quicksilver: 11*l.* 10s.

There is no change in the Mining Share Market since our last; and, as there has been very little business doing, owing to the approach of the Christmas holidays, our quotations are, for the most part, merely nominal.

A few transactions have taken place in Pateley Bridge, East Van, Great Wheal Vor, Marke Valley, Parys Mountain, Pennerley, Penstruthal, Prince of Wales, Wheal Agar, West Chiverton, Tankerville, Roman Gravels, and a few other mines.

West Tolgus, 60 to 65; at the meeting, in Cornwall, a dividend of 1*l.* 5s. per share was declared. South Carn Brea, 32s. to 35s.; at the meeting a call of 3s. 6d. per share was made. The accounts showed a balance against the mine of 1333*l.* Bog, 6s. to 8s; Bedford United, 23s. to 25s: Carn Brea, 37 to 39; Devon Great Consols, 4 to 4¼; Dolcoath, 40 to 42; East Caradon, 1½ to 1⅞; East Van, 2¾ to 3¼; Gawton, 5s. to 10s.; Great Laxey, 15½ to 16½; Great Wheal Vor, 3 to 3¼; Hingston Down, 17s. 6d. to 22s. 6d.; Marke Valley, 3½ to 3⅞. New Rosewarne, ⅝ to ¾; the lode continues rich in the 58. Relistian Consols, ⅝ to ¾; the lode in the shaft is 5 ft. wide. Old Treburgett, 4s. to 6s.; one of the stopes has improved to 75*l.* per fathom. Parys Mountain, 10s. to 12s. 6d.; Pennerley, 1⅜ to 1⅝. Penstruthal, 8s. to 10s.; the mine continues to open out well, and the manager's estimates for tin are being exceeded; a course of copper ore is looked for. Van Consols, 1⅜ to 1⅝; an improvement is looked for here in the sinking of the new drainage shaft.

Cathedral, 20s. to 30s.; the 40 fm. level is now nearly reached, when the agents hope, from the indications above, to open out a rich course of copper ore. Great West Van, 10s. to 15s.; the mine is now clear of water, and the bottom level being pushed forward towards, it is expected, a good course of lead. Plynlimmon, 6s. to 7s. Prince of Wales, 4s. to 6s.; the lode in the 45 west is still 8 ft. wide, and worth 16*l.* per fathom. Treleigh Wood, 5 to 7½; the lode has been cut into at the 56 cross-cut, with good branches of tin, a sample from one of which produced 5 per cent. of tin. A good lode is expected here. Pateley Bridge, 4½ to 5½; Saint Patrick, 1⅛ to 1⅜. Roman Gravels, 12 to 12½; no change here; the stopes generally are yielding the usual quantities of ore. Ladywell, 2 to 2½; the sampling of lead here is 25 tons. The lode in the 32 end south is undergoing a change for the better. Tankerville, 10½ to 11; no change here. South Caradon, 130 to 140; South Condurrow, 5 to 5½; South Frances, 8 to 10; South Tolcarne, 10s. to 15s.; Tincroft, 19 to 21.

Trebeigh Consols, 7s. to 9s.; Unity Wood, 30s. to 35s.; Van, 29 to 31. West Chiverton shares are not so strong, at 16 to 17. West Craven Moor, 10 to 10½; West Tankerville, 1 to 1⅛; Wheal Agar, 2⅛ to 2⅜; Wheal Crebor, 2½ to 3; Wheal Grenville, 1⅛ to 1⅛; Wheal Peevor, 2½ to 2⅝. Wheal Basset shares have been in demand, and advanced considerably, owing, it is reported, to a good discovery of copper, but it is almost impossible to get a quotation. At Wheal Owles meeting a profit of 1076*l.* 2s. 6d. on the quarter, and a liability to the bank of 14,460*l.* 11s. 4d. The mine for some time past had been stocking its tin up to, it is said, 300 to 400 tons; to meet the last four months' cost, however, 98 tons were sold for 4883*l.* 10s. There is said to be a fine lode for tin lately discovered about 30 fms. under the bed of the Atlantic Ocean.

St. John del Rey, 400 to 420; the net profit in the last half-year's working is 77,990*l.*—former balance 3700*l.*—making 81,690*l.*, out of which the directors recommend a dividend of 25 per cent. on the capital of the company, being at the rate of 50 per cent. per annum, leaving 7740*l.* to be carried forward. The quantity of gold produced in the half-year was 34,344 ozs. Argentine, 6½ to 7; Birdseye, 1½ to 2½; Eberhardt and Aurora, 8½ to 9; Flagstaff, ⅞ to 1⅛; Frontino and Bolivia, 30s. to 35s.; Richmond has declined to 7 to 7½; San Pedro, 2 to 2½; Sweetland Creek, 2⅞ to 3⅛; Tecoma, 8s. to 10s.; Santa Barbara, ⅛ to 1⅛. Gold Run, 16s. to 18s.; the advices are still favourable.

The Market for Mine Shares on the Stock Exchange during the week has been without much animation, consequent on the close of the year and the impending fortnightly settlement, which will commence on Tuesday. The business chiefly occupying attention is in connection with the adjustment of outstanding accounts, and there have been comparatively few transactions of new business. A general impression prevails that a large and expanding business will commence with the New Year.

Foreign Quartz Mines have been fairly maintained. St. John del Rey stock has changed hands at somewhat lower quotations, upon realisations on account of speculative purchasers, who had bought in anticipation of the dividend announcement. The half-yearly meeting was held on Wednesday last, and is reported elsewhere. This company was formed in 1830 and the first dividend was not paid till 1842; from that date to the present, including the dividend now declared, there has been paid to the proprietors in dividends 1,035,640*l.*, or an average of 31,383*l.* per annum for each of the 33 years elapsed since the first dividend was paid; this is at the rate of 23 per cent. on the original paid-up capital; the capital has been increased, and the dividend now paid is 50 per cent. per annum. Satisfactory progress has been made during the half-year in opening out the mine, the works having been carried on with energy and success; the produce for the half-year is 38 per cent., and the profit 43 per cent. more than for the preceding half-year—a result obtained during the dry season of the year, when all the machinery has to be kept at a slow speed from insufficiency of water-power, while the past season was an unusually dry one, for during nearly five months only a few showers of rain fell. The average monthly produce for the half-year ending the month of September was 49,652 oits. for October it was 57,939, and November 56,000. November being a 30-day month, and October 31 days, the November produce is within 3 oits. per day the same daily produce each month; the average monthly profit for the half-year was 12,998*l.*, and for October 15,300*l.*, and November 15,200*l.*; the profit for the half-year available for dividend was 77,317*l.*, and the dividend declared was at the rate of 50 per cent. per annum; 10 per cent. was carried to reserve fund; of the 7742*l.* to be carried forward 5000*l.* was set aside for the reserve fund, thereby increasing it to 36,000*l.*; the closing price is 410 to 420. Port Phillip, ⅜ to ⅞; the gold obtained during October was 906 ozs. 12 dwts., the average being 5 dwts. 8⅞ grs.; the receipts were 2734*l.*, and payments 3100*l.*; profit, 633*l.*, added to which was last month's balance of 2007*l.*; the amount divided between the two companies was 800*l.*, the Port Phillip Company's proportion of which is 520*l.*; the balance of 1207*l.* was carried forward to the next month's account; remittance, 520*l.* Chontales, ½ to ⅝; Javali, 9-16ths to 11-16ths. Argentine shares have been dealt in at 6½ to 7; the next advices, due about the middle of January, are awaited with considerable interest.

Silver Mines have been represented by Eberhardt and Aurora shares, which again show an advance, closing 8½ to 9; at the meeting, on Thursday, the resolution was unanimously confirmed, authorising the board to invite the debenture-holders to accept shares at par in payment of the principal money represented by their debentures, and to pay them a bonus of 2*l.* 10s. in cash for each 10*l.* of debenture; a resolution was also passed, authorising a dividend upon the shares as soon as the board are in possession of cash funds for the purpose. The Chairman stated that holders of debentures to the value of about 16,700*l.* had assented, leaving outstanding 4140*l.*, and now that the resolution has been confirmed the whole of the necessary assents will be sent in. The half-year's accounts, made up to the end of the year, are expected to be received by the end of January, when the dividend will be declared—more than 12,000*l.* is expected to be divided amongst the shareholders of this company Richmond shares have declined during the week from 7¾, 8 to 7, 7¼; the meeting is reported elsewhere. Cablegram received:—"Week's run, $46,000; hoist started to-day." The season's make is $1,394,000, and since February $1,924,000. The refinery this season has produced gold and silver to the value of $908,000, irrespective of lead. The run this week, obtained during a partial suspension of hoisting, is favourable; and, now that unlimited facilities of hoisting power are available, no excuse can be made in future for short returns. The manager's report this week, taken into account with his observations in former reports, indicates the probable line of the new discovery in the 600 drift is likely to take, that direction being upwards towards the 500 and downwards the 700. The information that the end of the driving in Lizette tunnel is looking promising for ore is important. The tunnel is being run to intersect the ore body lately discovered on the west side of the hill, and if the tunnel meet with ore so soon there is probably a large intervening mass of ore between the two points. This, the first discovery on the west side of the hill, is being connected with the latter discovery on the same side of the hill, which is much below the level of the first body; so that the ore here is apparently deepening as well as lengthening. The main lode is, however, after all, the main reliance, and its improvement the chief feature. In this respect the manager's statement is—"the bottom of the mine is looking very well; could not wish it to look better than it does. The *Eureka Sentinel* of Nov. 28 has the following respecting the K. K. Mine, which is next to the Eureka Consolidated:—

"K. K.—This mine has a bonanza of great extent. On the 600-ft. level a well-defined ledge has been developed carrying an amount of clean, high-grade ore never before equalled in this district. The ledge is 30 ft. wide, and runs nearly due east and west, crossing, if its course is maintained, along the base of the hill north of the old Jacbson works. The indications are favourable that the same body will be cut on the seventh level, at which point a drift is now being run. The furnace is running well, and all of the dumps are running over with ore. The mine at present is looking better than any other on Ruby Hill, and still we are informed by private letter from San Francisco that it seems impossible to put the stock up in the market. Verily are the ways of manipulators of stock inscrutable and past finding out!"

The Market for Gold-Washing shares on the Stock Exchange has been tolerably active, notwithstanding the near approach of the Christmas holidays, and in one or two instances we note an important rise—notably in Bird'seye Creek and Cedar Creek. Sweetland and Blue Tent shares are steady, at quotations. Blue Tent, 4 to 4½; the directors have received a telegaam from their agent, Professor Price, announcing the very gratifying intelligence that water was flowing through the ditch from the head to the mines. Advices just re-

ceived state that washing was actively progressing at the Enterprise and Blue Lead claims, with 1200 in. of water. Now, however, that water is running through the ditch, as per telegram, washing has, no doubt, been commenced at South Yuba claim also. Sweetland Creek, 2⅜ to 3; the last advices have been anticipated by the receipt of the telegram noticed last week. Shares have been dealt in during the week, and are now quoted ex div. Cedar Creek, ⅝ to ¾; the annual meeting of this company was held on Wednesday, and a full report will be found in another column. The directors urged, that sufficient money (say 10,000*l.*) should be found by the shareholders to enable them to press forward the work on the Yankee tunnel by extra shifts of men, night and day; and a shareholder aunounced his willingness to subscribe half the amount, as there could be no doubt but that, if there were funds enough in hand to complete this work, the company would soon be in the dividend list again. The meeting invited this gentleman to a seat at the board, which he accepted; and it is understood that immediate steps will be taken to complete the arrangement. Bird's-eye Creek, 2⅛ to 2⅜; these shares have been in demand, and close firm at quotations. Washing is being actively continued, with promising prospects.

Van, 29 to 31; all works are progressing satisfactorily. Information has just been received of an improvement in the 90 west, which is now worth 100*l.* per cubic fathom. The 75 west has improved to the same value. Pateley Bridge, 4¾ to 5¼; the various operations at the mine are going on well, and there is no change reported in the values of the various ends. Grogwinion, 3 to 3½; Wye Valley, 4½ to 5¼: West Wye Valley, 3 to 3¼; West Goginan, 1½ to 2; Melindur Valley, 1½ to 2; Llanidloes Lead, 2¾ to 3¼.

English and Australian, 1¾ to 2¼; all the furnaces, both at Adelaide and Newcastle, were in full work at the date of the last advices, and the quantity of copper since shipped was 338 tons. Cape Copper, 37 to 38; New Quebrada, 3¾ to 4¼.

Subjoined are the closing quotations:—

Bog, ¼ to ½; Carn Brea, 57 to 59; Devon Great Consols, 4⅛ to 4⅛; Dolcoath, 40 to 42; East Caradon, 1⅝ to 1¾; East Lovell, 4 to 5; East Van, 2¼ to 2⅜; Great Laxey, 15⅛ to 16⅛; Great Wheal Vor, 3 to 3⅛; Hingston Down, ⅞ to 1; Marke Valley, 3⅝ to 3⅞; Pateley Bridge, 5 to 5⅛; Pennerley, 1⅛ to 1⅜; Penstruthal, 8s. to 10s.; Parys Mountain, 8s. to 10s.; Roman Gravels, 11¾ to 12¼; Tankerville, 10¼ to 11; Tincroft, 20 to 22; Van, 30 to 31; Van Consols, 1¼ to 1⅜; West Basset, 5½ to 6; West Chiverton, 16½ to 17; West Tankerville, 1⅛ to 1¼; Wheal Grenville, 1 to 1⅛; Almada and Tirito, ½ to ¾; Birdseye Creek, 2⅛ to 2⅜; Cape Copper, 37 to 38; Cedar Creek, ⅝ to ⅞; Chontales, ½ to ¾; Colorado Terrible, 1¾ to 2¼; Don Pedro, ¾ to ⅞; Eberhardt and Aurora, 8⅛ to 9; Emma, 1 to 1¼; Exchequer, 15-16ths to 1 1-16ths; Flagstaff, ⅞ to 1; Frontino and Bolivia, 1⅝ to 1⅞; Javall, 9-16ths to 11-16ths; Last Chance, ⅝ to ⅞; New Quebrada, 3¾ to 4¼; Richmond Consolidated, 7 to 7¼; St. John Del Rey, 410 to 420; San Pedro, 2 to 2⅛; South Aurora, 7s. to 9s.; Sweetland Creek, 2¾ to 3; Tecoma, ¼ to ⅜; United Mexican, 3¼ to 3¾; Argentine, 6¼ to 7; Blue Tent, 4 to 4⅛; Assheton, ¾ to 1.

HALIFAX SHARE MARKET.—Dec. 23: The following quotations are from Mr. J. H. Thackrah's list:—Halifax and Huddersfield Union Bank, 30; Halifax Joint-Stock Bank, 28⅝; Halifax Commercial Bank, 25; London and Yorkshire Bank, 28s.; John Crossley's, 13¾; Whitworth and Co., 9; Elland Gas, 20; Rastrick Gas, 18½; Bradford Brick and Tile, A, 24; B, 7 13-16ths; Charlestown Brick and Tile, 9¼; Ripponden Commercial, 12¼; Hebden Bridge Cotton, 10; Yorkshire Boiler and Insurance Company, 21s.; Norton Brothers, 8⅛, ex div.

EXPORTS OF COAL.—By the Monthly Circular of Messrs. Higginson, of Liverpool, we learn that the quantity of coal exported in Nov. was 1,127,318 tons, against 1,022,969 tons in the corresponding month of 1874, showing a increase of 104,349 tons. The particulars are—From the Northern Ports, 481,531 tons; Yorkshire, 93,057 tons; London, 3830 tons; Liverpool, 58,972 tons; Severn Ports, 351,677 tons; and Scotch Ports, 138,251 tons. The increase was—Northern Ports, 53,773 tons; Yorkshire, 28,560 tons; London, 75 tons; Scotch Ports, 34,608 tons. The decrease—Liverpool, 1445 tons; Severn Ports, 11,222 tons. Total, Jan. to Nov., 12,371,627 tons; corresponding month last year, 11,798,856 tons: increase, 572,771 tons.

The directors of the West Prussian Mining Company (Limited) have declared an interim dividend, payable on Jan. 1, at the rate of 8 per cent. per annum upon both the preference and "A" shares of the company for the three months ending Dec. 31.

The directors of the National Provincial Bank of England have again voted a bonus of 10 per cent. to all their officers and clerks on their salaries for the present year.

The directors of the Peel River Land and Mineral Company (Limited) have decided to recommend to the proprietors, at the annual general meeting, on Jan. 24, a dividend of 2½ per cent., free of income tax, making the distribution of the year ending June 30 to 5 per cent.

Vice-Chancellor Malins has appointed Mr. Edward Hart, public accountant (Hart Brothers, Tibbetts, and Co., 57, Moorgate-street), the official liquidator of the Liguria Gold Mining Company.

The Master of the Rolls has appointed Mr. A. A. Broad (Broads, Pateson, and May, public accountants) official liquidator of Brannon's Patent Fire-Proof, Sanitary, and Permanent Works (Limited).

Vice-Chancellor Malins has appointed Mr. Frederick Maynard, of Queen Victoria-street, permanent official liquidator of Parv's Patent Felted Fabric Company (Limited).

Vice-Chancellor Malins has appointed Mr. B. P. Daniels (Good, Daniels, and Co.) official liquidator of the Kent Tramways Company (Limited).

MINING INDUSTRY OF TURKEY.—An important address was presented to the Grand Vizier, on Dec. 7, by a deputation representing the mining industry of Turkey, in which the obstructive provisions of the existing law were pointed out, and a number of practical suggestions made for so amending the law as to ensure the more satisfactory development of the mineral resources of the empire with foreign capital. The terms of the address will be fully stated in next week's Journal.

SUB-WEALDEN EXPLORATION.—Mr. Henry Willett, the honorary secretary, issued his 14th quarterly report on Wednesday. He states that the contractors, the Diamond Boring Company, are laudably endeavouring, at their own cost, to enlarge the bore-hole, so as to enable them to reach 2000 ft., and to produce cores undeniably satisfactory to the promoters. Mr. T. Warner, of Brighton, has written to say that, should there be others who wish to carry on the exploration to a greater depth than 2000 feet he should be happy to contribute, in addition to his promised 300*l.* for 2000 feet, 10s. a foot for any additional depth between 2000 feet and 2100 feet, 15s. a foot for every additional depth beetween 2100 feet and 2300 feet, and 1*l.* a foot for every additional depth between 2300 feet 2500 feet, equal to the sum of 400*l.* in all for the next 500 feet after 2000 feet, the condition being that the cores brought up shall be sufficiently large to enable the geologists to satisfactorily identify the strata. The contents of Mr. Warner's letter have been communicated to the contractors, who state that it will be quite easy for them to go on with the boring if the money can be found to enable them to overbore from the surface; and Mr. Willett says that the ultimate decision will rest with the central committee in London, who will, of course, be guided mainly by the question of finance. He adds that some strange and inexplicable phenomena incident to the experiments for ascertaining the underground temperature should be enquired into. The exploration fund account shows that the balance in hand has been reduced to 150*l.*

LARGE STEAM-BOILER.—On Monday a ponderous steam-boiler, drawn by 15 of Messrs. Wordie and Co.'s powerful draught horses, was forwarded to Moffat Paper Mills. The dimensions of the boiler are 31 ft. long by 7 ft. diameter, with two internal furnaces and flues 33 in. diameter. The boiler, which is fitted up with all modern improvements, and which weighed fully 15 tons, was safely landed at its destination. The boiler was made by the firm of Wm. Wilson and Co., Lilybank Boilerworks, Glasgow, who have turned out more boilers for all parts of the world than any other single firm in Glasgow. Their works at Lilybank are in a flourishing condition, under the able control of Mr. A. D. Gray (late of Blair and Gray), the managing partner of the company.

TREATMENT OF VULCANITE.—The object of the invention of Mr. W. C. HENDERSON, of Dalston, is to obtain various coloured effects in vulcanite. India rubber is combined with colour to the depth of colour or tint desired, and to the combination obtained is added sulphur as may be required for the purpose of the conversion of the India rubber, and having regard to the action of the sulphur on the colour. The compound obtained is then cured and ground to reduce it into particles of the size required. These particles are then mixed with dough of ordinary vulcanite in proportions varying with the effect desired to be produced, and then formed and cured. By these means effects are obtained very much resembling granites and other tones or marbles in appearance.

ARTIFICIAL EMERY WHEELS.—The invention of Mr. F. ATWATER, of Norwood, New Jersey, relates to the manufacture of compositions to be employed for the purposes of cutting, grinding, and polishing, and consists in combining glass, emery, silica, or other hard mineral substances or mixtures of the same when in a fine state of division with what is known as pyroxaline, celluloid, xyloidine, parkesine, or compounds similar thereto, containing soluble guncotton as their base, such compounds being employed in a plastic condition, and after thorough incorporation reducing the same to the desired form or forms by heat and pressure in order that the solid materiel or compound resulting may be obtained in such condition as to render them suitable for the purposes hereinbefore mentioned.

IMPROVEMENTS IN BOILERS.—To secure the proper circulation of water in boilers Mr. JOHN JORDAN, of Liverpool, causes an annular jet of steam to be injected into the middle portion of the sides or side or the ends or end of the boiler at or near the bottom, and joins to the apparatus a pipe leading to one or both ends of the boiler with suitable cock- o valves to regulate the supply. The annular apparatus has a junction for to attach a steam pipe to supply steam to the annular chamber, with cocks or valves to regulate the supply of steam, and also appliances to regulate the annular orifice. This junction is attached to the steam space of the boiler to which it is applied, and also to any other or donkey boiler capable of supplying steam.

COMPRESSED GUNPOWDER.—Mr. MURDOCK (for H. Müller, of Belgium), has patented an invention, the object of which is to form rings or cakes of compressed gunpowder. Two sliding blocks or frames having a reciprocating motion in opposite directions have upon each of them, and facing each other, one or more punches or pistons, the upper punches or pistons being provided with projecting stems or prongs of the section of the holes to be made through the gunpowder cakes. A plate or table, perforated with holes of the section of said punches or pistons, and having in them movable pistons or plungers, has imparted to it an intermittent rotary motion, which brings the holes, above referred to, alternately between the punches or pistons on the reciprocating frames, and the motion of the said frames causes the said punches or pistons to compress the gunpowder in the holes in the plate or table and pierce the required holes in the cakes thus formed. A roller and inclined plane beneath the plate or table cause the movable pistons or plungers to rise and deliver the formed cakes or rings upon the surface of the said plate or table.

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Original Correspondence: Explosions in Coal Mines (M.B.G.); Protection of Exploring Parties in Pits (H. Sewell); Mining Industry of North Wales (Justitia); Gold in Wales (T. A. Readwin); Cornish Mining—its Evils and their Remedies (Observer); Separation of Lead and Blende (Thos. Ellery); Wheal Grenville (Z., and Frederic Clift); Richmond Consolidated (A Sufferer); Frontino and Bolivia. Meetings of Companies: Australian Central; St. John del Rey; Cedar Creek; Chicago Silver; Fuller's Reef; Malabar Gold Washing; Richmond Consolidated; New Consols; New Chiverton; Blue Hills; Penhalls; Ruby Consolidated; and West Milwr. Miscellaneous: Government Experiments in Iron Making in India; Metallurgical Works in America; Economy in Fuel; Smelting Metallic Ores; Steam Engines; Throat Irritation; Sunnyside Lead Mining Company; Tin Plates; and various advertisements.

*** Having to go to press some hours earlier than usual, to suit postal arrangements, we have had to postpone several matters which we should, had time permitted, have inserted. We must, therefore, request our correspondents to attribute the non-appearance of their communications to that necessity.

PATELEY BRIDGE LEAD MINES AND SMELTING COMPANY (LIMITED).

MESSRS. F. W. MANSELL AND CO. (SWORN BROKERS) afford the LATEST INFORMATION from these VALUABLE MINES. HYDRAULIC GOLD, RICHMOND, EBERHARDT, STOCK EXCHANGE MARKET. See page 1415 in to-day's Journal.
STOCK EXCHANGE SECURITIES BOUGHT and SOLD for INVESTMENT or SPECULATION.
F. W. M. and Co. have Special Business in the above Shares.
14, Pinner's Hall, Old Broad-street, E.C. [Established 1857.]

LEAD MINING COMPANIES.—Investors are informed that
THIS DAY is published, price 1s. 6d.,
By J. H. MURCHISON, Esq., F.R.G.S.,
A Pamphlet on BRITISH LEAD MINES, together with the following MAPS, showing the position of the principal LEAD MINES, &c., &c., specially prepared by Mr. MURCHISON:—
1.—DURHAM AND NORTHUMBERLAND.
2.—SHROPSHIRE.
3.—CARDIGANSHIRE AND MONTGOMERYSHIRE.
Copies can be obtained at Mr. MURCHISON'S Office, 8, Austinfriars, London.

TO LEAD MINING COMPANIES.
WANTED, TO PURCHASE, ONE or TWO LEAD MINES, producing from 100 to 150 tons of ore a month, with a good prospect. Address, in the first instance, PHILIP HAWKE, Mining Engineer, Greenside Cottage, Caldbeck-by-Wigton, Cumberland.

WANTED, 10 ton WEIGHBRIDGE (secondhand); also TWO 9 to 12 ft. TURNTABLES; in the neighbourhood of PLYMOUTH. Address, "F. W.," 14, Abbey Mead, Tavistock.

TO MINING COMPANIES.
A MINE AGENT, of long experience in Cornwall and Foreigr Countries—thoroughly acquainted with Pumping and Winding Machinery, the Separation of Lead and Blende, and other Minerals, mechanically; a good knowledge of Copper Smelting, speaks English, French, and German—DESIRES a RE-ENGAGEMENT. Inspections and negociations undertaken. Unexceptionable references.
Address, "C. E.," St. Antonin, Porte Restante, Tarn-et-Garonne, France.

TO MINE PROPRIETORS.
THE ADVERTISER is OPEN to PURCHASE a MINE which has been fairly started, shows good interest for capital, and would bear engineers' close inspection.
Address, "A. B.," W. H. Smith and Son, Union street, Birmingham.

A GENTLEMAN, who has taken his highest degrees in a School of Mines abroad, and who has since had several years of experience in Mining in England and other countries, of thorough competency both in Underground and Surface Surveying, Leveling, Designing; good Draughtsman, with a fair knowledge of Analytical Chemistry, and speaking English, French, and German; WISHES EMPLOYMENT in the capacity of a CIVIL and MINING ENGINEER to a Company, or to an Engineer. First-class references and testimonials.
Address, "Delta," MINING JOURNAL Office, 26, Fleet-street, London.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Dec. 17—	Minera	36	£14 11 0	Walker, Parker, and Co.
—	ditto	26	14 15 0	ditto
—	ditto	26	14 15 0	Nevill, Druce, and Co.
—	ditto	50	14 15 0	Walker, Parker, and Co.
—	ditto	38	14 9 0	Nevill, Druce, and Co.
—	ditto	40	14 16 6	Walker, Parker, and Co.
—	ditto	9	14 10 0	Panther Lead Co.
18—	Frank Mills	15	14 12 6	South Wales Smelt. Co.
—	ditto	22	9 15 6	ditto
—	ditto	8	11 6 0	ditto
22—	Dyliffe	80	15 2 6	Panther Lead Co.
23—	Old Treburgett	33	26 19 6	Nevill, Druce, and Co.
—	ditto	10	19 0 6	Burry Port Company.

BLENDE.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Dec. 17—	Minera	41	£ 5 12 6	Ripley Spelter Company.
—	ditto	30	6 15 0	ditto
—	ditto	31	5 17 9	ditto
—	ditto	18	6 0 0	ditto
—	ditto	24	5 10 0	ditto

PERUVIAN TIN ORE SOLD IN LIVERPOOL on Dec. 22.

3¼ tons, 40*l.*, Bolitho and Sons; 9½ tons, 33*l.*, Williams, Harvey, and Co.; 5 tons, 40*l.* 10s., Daubuz and Co.; 5 tons, 40*l.* 10s., R. R. Michell and Co.; 10½ tons, 45*l.*, Bolitho and Sons; 4 tons 2 cwts., 44*l.* 15s., Tregonning and Co.; 4 tons 3 cwts., 44*l.* 15s., Redruth Co.—Total, 13 tons 15 cwts., Bolitho and Sons; 9 tons 10 cwts., Williams, Harvey, and Co.; 5 tons, Daubuz and Co.; 5 tons, R. R. Michell and Co.; 4 tons 2 cwts., Tregonning and Co.; 4 tons 3 cwts., Redruth Co.

COPPER ORES.

Sampled Dec. 8, and sold at the Royal Hotel, Truro, Dec. 23.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
South Caradon	91	£5 3 6	Glasgow Caradon	85	£5 11 6
ditto	90	6 12 0	ditto	71	5 5 6
ditto	89	5 9 0	ditto	70	4 7 6
ditto	85	7 4 6	ditto	29	3 3 6
ditto	79	6 5 0	Gawton	68	3 5 6
ditto	61	7 7 6	ditto	67	3 7 0
ditto	59	13 14 6	ditto	26	1 10 0
ditto	55	6 10 0	ditto	10	9 12 6
ditto	54	4 19 0	West Maria & Fortescue	82	3 3 6
ditto	53	6 5 6	ditto	46	8 4 0
ditto	51	6 6 0	East Caradon	61	4 11 0
ditto	47	12 19 6	ditto	54	4 9 6
ditto	46	7 7 0	Wheal Russell	71	3 0 6
ditto	40	9 19 0	ditto	31	3 2 6
Marke Valley	105	3 10 6	Bedford United	58	3 12 6
ditto	85	3 10 0	ditto	22	9 5 0
ditto	78	3 16 0	Phœnix	80	7 3 6
ditto	75	3 1 6	Wheal Friendship	31	9 4 0
ditto	62	3 15 6	ditto	29	4 4 6
ditto	36	2 9 6	Wheal Emma	30	5 4 6
Hingston Down	113	2 5 6	ditto	10	3 11 6
ditto	83	4 6 0	ditto	9	11 10 6
ditto	69	2 1 6			

TOTAL PRODUCE.

South Caradon	900	£6565	2 0	East Caradon	115	£ 519	4 0
Marke Valley	441	1517	16 0	Wheal Russell	102	311	13 0
Hingston Down	265	757	3 0	Bedford United	80	413	15 0
Glasgow Caradon	225	1246	14 6	Phœnix	80	574	0 0
Gawton	171	582	0 0	Wheal Friendship	60	407	14 6
West Maria & For.	128	637	11 0	Wheal Emma	45	296	4 6

*** The complete Ticketing will be published in next week's Journal.

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COPY OF REPORT.
"Sydney Galvanising Works, Sydney, Oct. 1, 1875.
"DEAR SIR,—I have much pleasure in stating that I have found the tin smelted at the "Kangaroo" Tin Smelting Works superior to any other Australian smeltel tin I have used in my business up to the present time, and in no way inferior, but quite equal to the celebrated "Lamb and Flag" tin.
This opinion has been arrived at after several carefully executed practical tests, as well as from metallurgical assays.
I am, dear Sir, yours faithfully,
"S. L. Bensusan, Esq." (Signed) S. TOLLNER.
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NOTICE IS HEREBY GIVEN, that the PARTNERSHIP heretofore subsisting between us, the Undersigned, JOHN NIXON and WILLIAM HEWARD BELL, lately carrying on business as COLLIERY PROPRIETORS at the CLYDACH STEAM COAL or WESTERN MERTHYR COLLIERY, near SWANSEA, in the county of GLAMORGAN, WALES, under the style or firm of NIXON AND BELL, has been DISSOLVED BY MUTUAL CONSENT as from the 30th day of September, 1874, and that ALL DEBTS DUE TO, OR OWING BY, the said Firm will be RECEIVED and PAID by the said WILLIAM HEWARD BELL, at the CLYDACH COLLIERY WORKS, SWANSEA.
JOHN NIXON.
Dated this 7th day of December, 1875. WILLIAM H. BELL.

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GEOLOGY.—SIX ELEMENTARY LECTURES ADAPTED TO A JUVENILE AUDITORY will be DELIVERED by PROF. TENNANT, F.G.S., at his residence, 149, STRAND, W.C., on the following days—Dec. 27, 29, 31, Jan 3, 5, 7, at Eleven A.M., and Three P.M. Terms, 10s. 6d. for the course.

Notices to Correspondents.

* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt; it then forms an accumulating useful work of reference.

REDUCING VALVE.—Can any correspondent explain briefly the principle on which the best form of reducing valve is constructed? The boiler from which the steam is to be taken is used for an engine which works at 75 lbs. pressure, but the other engine does not require more than 35 lbs. How are the two pressures to be got from the same boiler. The adoption of the second engine is objected to on the ground that it will be inconvenient to work the two together, but I am informed by others that a reducing valve would remove the difficulty. What would such a valve cost?—LIQUIDATOR.

DEBENTURES AND SHARES.—An objection was raised at the meeting of the Australian Central Company that shareholders do not like debentures so well as shares, because they are less negociable. The feeling seems remarkable. The company is paying 20 per cent. for less than 1000*l.* to a stranger to whom the property is mortgaged as security. If the shareholders took 1000*l.* worth of debentures they could themselves receive the 20 per cent. upon it, which would represent a fair interest on their entire holding. If 2000*l.* were issued on debenture the company would have some working capital also.—BUSINESS.

COMPRESSED AIR LOCOMOTIVE.—I have noticed that a proposition has been made to propel street tramway cars with compressed air locomotives, but from what I have seen of the store cylinders employed when compressed air is used, it appears to me that compressed air would necessitate apdaratus altogether too bulky. To set the matter at rest, however, will you permit me to ask what sized store cylinder would be necessary to propel an ordinary loaded tram-car a mile. I presume the pressure at starting could not be above 6 atmos., and that it could not be let run below 2 atmos.—ENQUIRER.

FRONTINO AND BOLIVIA.—At the forthcoming meeting the question of presenting a handsome gratuity to the Chairman—Mr. T. Eyre Foakes—is to be discussed, and I am sure that every shareholder will acknowledge that the Chairman has worked most energetically in the interest of the shareholders; but at the same time it must be recollected that he has been receiving a large salary for his services, and that the shareholders have not had a penny dividend. Under these circumstances it would surely be well to defer proposing a gratuity to the Chairman until the unfortunate shareholders have received in dividends an amount at least equal to the fees paid to the directors.—FAIRNESS.

EAST GRENVILLE.—BROTHER SHAREHOLDERS: How long will you allow this unfortunate property to drag on its costly and hopeless existence? Are there any parties whom you wish to benefit at the sacrifice of yourselves, or do you shrink from an investigation from fear of the consequences? Is there a parallel of such an unpromising concern being carried on with such formidable liabilities? Will you allow what has happened at a sister mine to be lost upon you; and will you never be tired of your captain's platitudes?—A CO-PARTNER.

RICHMOND CONSOLIDATED MINING COMPANY.—We have received several letters referring to the proceedings at the meeting of proprietors on Wednesday, but in consequence of having to publish a day earlier we are compelled to postpone them until next week.

Received,—"A. T." (Partington)—"R. S." (Cardiff)—"R. R." (Rhyd-y-galed): The Savile-street Foundry and Engineering Company, Sheffield—"H. A. S."—"Shareholder" (York)—"Constant Reader" (Belgium): The meeting will be attended, and the proceedings reported—"M. W." (Yeovil)—"Stannum"—"A. D." (Castelletto): Letter forwarded—"Reader" (Glasgow): An article in this day's Journal on "Powerful Explosive Agents" gives the information enquired for—"Shareholder" (Van Consols)—"M. S.:" Next week—"Share holder" (Richmond): Next week—Several other letters are also held over.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, DECEMBER 25, 1875.

THE IRON AND COAL TRADES OF EUROPE.

"It is clear, I am afraid, that we must look forward to a period of comparative depression in trade," was the utterance of Lord DERBY, in Edinburgh, on Saturday night. The Foreign Secretary said more—he reminded his hearers, and through them the nation, that we cannot have exports falling off as they have done for the last two years without the revenue being injured by the diminution of employment which that falling off indicates. The only wonder to his mind, he said, was that the effect had not been produced earlier. The gradual approach of the period of full depression his lordship attributed to the fact that existing orders must be worked off, and men go on at a loss for a certain time, in the hope of things mending; but, he said, it reaches them at last. Nay, it has begun to reach them now; and he was afraid the country must not expect that for the next year or two the revenue would exhibit its normal elasticity. What the Earl of DERBY spoke in the Scotch capital at the close of last week we have in effect been writing for many weeks past; and the most recent information only demonstrates the increasing severity of the depression. The number of men unemployed, or only partially employed, in the iron and coal trades increases, and the severity of the suffering becomes greater as the absence of employment is prolonged. Then the dependence and interdependence of one trading industry upon another makes the effects of the depression felt in quarters which people who do not give such questions careful thought would assume to be beyond the reach of any adverse influences. It is pointed out that, taking a dozen of the principal companies, and comparing their traffic receipts of the past 12 weeks with those of the earlier 12 weeks of the present half-year, it is found that the increase has only been 74,000*l.* in the latter period, while it was 285,000*l.* in the former. It is asked whether it is possible to account for this great falling off in a satisfactory manner, or if it is to be ascribed to nothing but depressed trade? No surprise should be expressed that the passenger traffic should fall off, but it is highly discouraging, though not inexplicable, that the receipts for goods should have so fallen, just when the autumn trade should have been at its steadiest. The railway returns show that in the first 12 weeks spoken of the increase from goods, as compared with the corresponding period last year, was 130,000*l.*, and that in the second it was not half that amount—indeed, no more than 60,000*l.* We say this falling off is not inexplicable, and we venture to assert that there is hardly a reader of the Journal who entertains a different view. It is impossible for the foreign demand for iron and steel to have dropped to its present level without the receipts of the great carriage companies being largely affected, for such a reduction in the demand for the metal means a proportionate reduction in the carrying of all the materials required in its manufacture; and when the metal itself is spoken of reference is at the same time made to the leading metalliferous products for which this great workshop of the world is celebrated.

It is highly satisfactory that all branches of the coal trade are not suffering alike. At the same time that England is the workshop so likewise is it the coal cellar of the world, whilst, therefore, our greatest customer—the iron trade—is just now expressing its wants very languidly, the enquiries for coal on export and home account, arising mainly out of the period of the year, are excellent, and the same remark applies to all coal-getting nations upon this side of the Atlantic. In November last year the quantity of coal shipped from Newcastle was 251,964 tons, but in November this year the shipments rose to 272,560 tons; simultaneously the increased quantity shipped from Newcastle was 251,964 tons, but in November this year the shipments rose to 272,560 tons. Concurrently the increased quantity sent from Newcastle to London and coastwise last month, as compared with the corresponding month a twelvemonth ago, was 2000 tons. The activity of the northern colliery owners may not have tended to improve the state of things in South Wales; but there, too, in the house coal branch a fair amount of prosperity is seen, and there are there, as in the Rhymney Valley collieries, whence steam coal is obtained, where more coal is being turned out than for four years past. The information from France is that in the districts of the Nord and Pas-de-Calais the output has increased, and the railways are carrying off the coal as fast as they can, the canals being frozen, and the Frenchmen declare, with a pardonable amount of satisfaction, that notwithstanding the competition offered to home producers by English and Belgium makers prices retain their firmness, and there is some dislike shown to accept any orders for screened coal. Quotations in the French districts average as here.—Coal for Manufacturing Purposes: Screened, from 24s. to 27s. 6d.; unscreened, 16s. 6s. to 18s.; small, 13s. to 15s. 6d.—Households: Screened, 23s. 9d. to 25s. 6d.; unscreened, 15s. to 17s. 6d.; small, 12s. 3d. to 14s. 9d.—Steam Coal: Screened, 19s. 6d. to 23s.; unscreened, 13s. to 15s. 6d.; no small on offer. The cold weather likewise has had an effect upon the Charleroi district, where the prices stand at—Coal for Manufacturing Purposes: Screened, none on offer; unscreened, 16s. 6d. to 17s. 9d.; small, 13s. 3d.—Households: Screened, 25s. 6d. to 27s.; unscreened, 15s.; small, 10s.—Steam Coal: Screened, 19s. to 20s. 6d.; unscreened, 13s.; small, 8s. The German collieries have not been so active in their endeavours to push the sale of produce at low prices, as their stocks have been greatly diminished, and they have found a market at home for their daily output. As to the Mons district, there orders are being received in great numbers; but here, too, the frost is interfering with deliveries, which are in arrear. Nevertheless, the coal is being stored until the canals are again open. The output is being daily increased, and prices are said to be very firm, as under.—Coal for Manufacturing Purposes: Screened, 23s. to 25s. 6d.; unscreened, 17s. 6d. to 18s.; small, 14s. 3d. to 15s.—Households: Screened, 24s, to 25s.; unscreened, 15s.; small, 12s. 6d. So long, however, as the iron trade remains in its present unsatisfactory state the whole condition of the coal trade cannot be any other than one of languor.

The most recent advices speak of a slight improvement in some branches of the iron trade. The Cleveland pig makers are experiencing a larger demand, the result mainly of the very low prices which the depression had compelled them to ask to keep their furnaces going. The make of the Cleveland furnaces in November has been an increase of 13,000 tons upon the make of November last year. The exports of pig from Middlesborough show a state of things much similar to that pointed out in regard to coal from Newcastle, since in November this year as compared with November last, there was a greater exportation—foreignwise of 7706 tons, and coastwise of 2326 tons. That it is the low prices which they have been asking has enabled the Cleveland makers to do so much business is conclusive from the fact that the bulk of their business has been done inland, the pigs going to meet the requirements of the mill and forge proprietors of such centres of production as Staffordshire, Lancashire, Derbyshire, and the like. Thus, the whole output of the 71 furnaces blowing in the Middlesborough district last month, which amounted to 106,334 tons, has been consumed, with the exception of some 352 tons, to which extent the stocks have augmented on the month, though, if we add the 180 tons less production in November over October, the difference is 532 tons. Such a quantity is, however, hardly worth mentioning at a time when distressingly little is being done in the mills and forges which surround the Cleveland furnaces. Just a shade more enquiry is being expressed for rails in that part of the kingdom, and a few more plates are likewise being made thereabouts. Nevertheless, there is still considerable depression in the engineering and shipbuilding trades on the banks of the northern rivers. In the West of Scotland quotations for pig-iron have been well maintained at the low level to which the lessened demand and the competition from Cleveland reduced them, though the trade is manifesting rather less activity. A little better report is to hand as to the finished iron industry of West Scotland, principally attributable to a better demand for ship-plates, which have slightly strengthened in price. Very insignificant are the proportions of trade at the ironworks in South Wales, and the Staffordshire makers are fast clearing their order books. Doubtless the production of the iron and steel works throughout the whole world are vast—much vaster than is necessary to meet the existing requirements of the various markets. An authority upon general trade matters has just laid it down that what is wanted among manufacturers and merchants is a better price for their wares. It is urged that a good steady consumption will hardly bring that about, so long as the supplies are relatively so large as they now appear to be in almost every market for any raw material which this country can turn out, and it is often instanced that the price of coal is low throughout the country, "and drooping still on the whole." One of the deductions evolved is, "until the turn occurs in it (coal) a rise in other markets is almost out of the question."

We concur that until coal has risen iron will not advance, and we further concur that better prices are needed by manufacturers and merchants, but we assert that those better prices cannot come about until quotations have fallen below the subsisting standard. The little trade that is being done would be very much smaller were it not for the prices which are now being accepted—prices which leave but a fine fringe of profit to either colliery owners or ironmasters. The expenses of colliery owners and ironmasters alike must be reduced, workmen must be paid lower wages, and they must work more hours. Lord DERBY said—"We hear of high wages and their influence on production, and no doubt there is something to be said in that sense," and so on. The Foreign Secretary was very tender upon this point, as was to have been expected, when it is remembered that he was addressing an audience of wage-earners. The ironmasters and shipbuilders of Glasgow, and the colliery owners thereabouts, together with the employers of the same classes throughout England and Wales, could not only have said "something," but a great deal "in that sense." It is their consciousness of the need of the trade that has given rise to the movements for lower wages upon every hand, and what is being done in the iron and coal trades of Great Britain "in that sense" is being done likewise in Belgium, and, indeed, in the United States, to which country Lord DERBY referred when he pointed out that the nation from whose competition we have most to apprehend is the one where wages are higher than they are here. Coal and iron masters cannot reduce quotations unless present working charges are lessened, and until existing quotations are reduced we must repeat we have no reasonable hope that the prevailing depression throughout these industries will give place to spirited action by buyers, because of the conviction that the time has at length arrived for laying in stocks and for dealing in a commodity which, having reached its minimum quotation, must soon begin to return to its maximum.

OUR COAL ABROAD.

Our exports of coal have been steadily marching on this year. They had attained an aggregate to Nov. 30 of 13,338,271 tons, or an average of 1,212,570 tons per month. Assuming that the exports are maintained in December at about the same average level as in first eleven months of the year, they will amount for the whole of 1875 to 14,550,841 tons. This aggregate will not, however, include the quantity of coal shipped for the use of steamers engaged in the foreign trade. These latter shipments amounted to Nov. 30 this year to 2,989,133 tons; and applying a similar calculation to these figures to that already made with regard to the direct exports of coal from our shores, we arrive at a second total of 3,260,872 tons. This second total added to the previous estimate of 14,550,841 tons, representing the probable direct exports of the year, gives a final aggregate of 17,811,713 tons, as the quantity of coal likely to be shipped in one way or other from the British shores in 1875. It will thus be seen that the external consumption of our coal has a constant tendency to grow in importance. It has multiplied probably nearly threefold during the last 20 years, and there appears to be a prospect of its growing still further in magnitude.

It is rather curious to note that France is taking more and more of our coal. Thus in the first 11 months of 1873 we sent the French 2,206,477 tons of coal; in the first 11 months of 1874 the total receded to 2,160,880 tons; but in the first 11 months of this year it expanded to 2,449,750 tons. The fall which has taken place in prices has at once rendered the French larger importers of our coal, and it will be seen that they will in all probability use it this year to the extent of from 2,650,000 tons to 2,700,000 tons. This must be pronounced a remarkable result when we remember that France imports also large quantities of German and Belgian coal, while the extraction of coal from the soil of France itself is constantly increasing. The Germans, again, although they have coal to spare for exportation to Belgium and France, have been taking more and more English coal of late. In the first 11 months of 1873 we sent them 1,551,151 tons; in the first 11 months of 1874, 1,942,801 tons; and in the first 11 months of 1875, 2,028,095 tons. These figures would seem to indicate a great development of steam-impelled industries of late years in Germany as well as in France. Comparing the first 11 months of 1875 with the first 11 months of 1874, our coal exports to Germany show an increase of 85,294 tons this year. A similar calculation applied to our coal exports to France show that they have also increased this year to the extent of 288,870 tons, so that these two countries had at the close of November taken between them 374,164 more tons of our coal this year than in the corresponding period of 1874. The aggregate increase in our coal exports in all directions in the first 11 months of this year, as compared with the corresponding period of 1874, was 476,025 tons; and as we have just shown that France and Germany contributed 374,164 tons to this increase, it follows that other countries participated in the advance established this year to the extent of only 101,861 tons. As regards these other countries, our coal exports have increased this year to Russia (slightly), Sweden and Norway, Denmark, Holland, and Spain, but they have decreased this year to Italy, Turkey, Egypt, Brazil, and British India, although upon the whole, as already indicated, the miscellaneous shipments have indicated a not altogether unimportant progress.

We do not know whether the circumstances are rigidly and strictly comparable, but there is one feature about our export coal trade which appears to us to afford a scrap of comfort to the British iron trade, which certainly stands in need just now of all available consolation. This scrap of comfort is the fact that the decline which has taken place in the price of coal this year has undoubtedly had a tendency to increase its external consumption. In the first eleven months of 1874 we exported direct 12,862,246 tons of coal, of the estimated value of 11,160,062*l.* In the first eleven months of this year we exported direct 13,338,271 tons, of the estimated value of 8,961,790*l.* There cannot be a doubt that the great reduction in prices indicated by this comparison has had a good deal to do with the growth of our coal exports this year. The question is whether a similar reduction in the price of our iron would not greatly stimulate the demand for it on external markets.

BRITISH IRON TRADE ASSOCIATION.—A meeting was held on Tuesday afternoon, at the Westminster Palace Hotel, under the presidency of Mr. I. Lowthian Bell, M.P., for the purpose of forming the above association. It has long been felt by leading members of the Iron and Steel Institute, which confines itself to questions of a technical and scientific character, that some organisation was desirable to deal with the commercial aspect of the trade in its imperial bearings. Such bodies exist in the iron and steel trades of the United States, Germany, Belgium, and France, which keep their members fully informed on matters affecting their interests, not only as relates to their respective countries, but generally in other nations. It has been thought necessary, therefore, that attention should be given to the influence of workmen's associations upon the Legislature, to matters connected with foreign tariffs and treaties of commerce, to the collecting and publishing of comprehensive statistics of the manufacture of iron and steel at home and abroad, and generally to the establishment of a national organisation for the promotion of the commercial interests of the trade. Among the gentlemen present at the meeting were Mr. R. H. Heath, M.P.; Mr. B. Samuelson, M.P.; Mr. J. T. Smith, Barrow; Mr. H. Bleckley, Warrington; Mr. E. Fisher Smith, Dudley; Mr. Clark, Dowlais; Prof. Forbes; Mr. William Fowler, Leeds; Mr. J. T. Johnson (Messrs. Johnson and Nephew); Mr. F. Beaumont, Darlington; Mr. John Wood, Maryport Hematite Company, &c. A resolution was passed declaring the advantage of forming the British Iron Trade Association, and its general objects were resolved upon as follows:—First, to secure the means of communication between members of the iron and steel trades of Great Britain upon all matters bearing upon the commercial interests of those industries; secondly, to procure and circulate detailed statistics of the iron and steel trades both at ho ne and abroad; thirdly, to attend to all matters connected with foreign tariffs, commercial treaties, and home parliamentary business that may have a bearing upon the position of the iron and steel trades, excluding questions of the regulation of wages, or of a purely local character, and generally to take all proper measures for advancing the interests of the British iron and steel trades in all their branches. An interim board of management was appointed, including some of the most influential names in the trade, with instructions to submit a complete list of 36 members to the next meeting of the association, which will be held in London in February or March, 1876. Mr. Clark, of Dowlais, was unanimously elected the first President, and took the chair on its being vacated by Mr. I. Lowthian Bell. Mr. Wm. Newmarch was elected treasurer, and Mr. John Jones, of Middlesborough, secretary of the association, and the board was empowered to draft bye-laws. All persons, firms, and incorporated companies connected with the iron and steel industries in the British Islands, colonies, or dependencies may become members of the association on payment of a subscription to be hereafter fixed. Those joining on or before March 31 next will constitute the original members. After that date admissions will be by voting.

THE EXPLOSIVE COMMITTEE.—The Committee on Explosives while seeking to ascertain by experiment the size of pebble powder most suitable to large guns of various sizes, are also studying to improve, if possible, the composition of gunpowder itself. Hitherto all descriptions of powder employed have been compounded of precisely the same ingredients, and, in fact, no material change in its composition has been made for centuries past. The chemists, however, who brought it to such perfection left it to the last few years to discover and develope the principle of increasing the size of the grain so as to bring the powder under such marvellous control that its expansive force can be measured with the greatest nicety. The committee has been labouring to this end for some years, and similar investigations have been made simultaneously upon the Continent. Colonel Younghusband, R.A., the president of the committee, and the present superintendent of the Royal Gun Factories at Woolwich, visited most of the capitals of Europe to ascertain what was being done in that direction, and the earlier experiments of the committee were conducted with the Russian prismatic powder, both in solid prisms and perforated. The results obtained led to a variety of experiments, and at length a pebble powder of 80 grains to the pound was hit upon as the best for use in large guns. Since, then, however, improved appliances for recording the pressures exercised by the generation of powder gases more or less suddenly have led to the increase of the grains to solid cubes or three or four to the pound, and it is not improbable that eventually there will be a special powder, as there is a special shot, for every kind of gun in the service. The Explosive Committee do not hope for much success in altering the chemical composition of gunpowder, but, with the assistance of the most competent authorities on the subject, they are giving the matter thorough and careful consideration.

COAL AND IRON IN THE UNITED STATES.—The shipments of coal from Cumberland, Maryland, to Nov. 27 this year amounted to 2,154,277 tons; this total presents a decrease of 62,338 tons as compared with the corresponding period of 1874. The production of anthracite coal in Pennsylvania to Nov. 27 this year amounted to 22,605,768 tons, against 22,380,250 tons in the corresponding period of 1874, showing an increase of 225,518 tons this year. Adding to this total the bituminous coal extraction of the States this year, we have an aggregate production of coal in Pennsylvania to Nov. 27 this year of 26,226,788 tons, against 25,762,221 tons in the corresponding period of 1874, showing an increase this year of 464,567 tons. English rails, in bond at New York, have brought $35 to $36 per ton gold; American rails have made $45 to $48 per ton currency at the works.

MINING IN AUSTRIA.—The statistics have just been published of the production of the Austrian mining, salt, and smelting industries during 1874. The total value of the output from the mines was 46,279,400 gulden, against 47,733,058 in 1873. The bulk of this amount represents stone-coal and lignite. Of the former the output was 4,471,234,311 kilos., valued at 20,837,968 gulden; and of the latter 8,160,130,445 kilos., valued at 16,180,417 gulden. The most important coal and lignite deposits are in Bohemia, Silesia, and Styria. Coal is obtained from 369 mines, and lignite from 865. In these pits 1146 cutting machines are now at work. In the same year 907,716,654 kilos. of iron ore, valued at 3,701,414 gulden, were ob-

tained; 6,633,264 kilos. of silver ore, valued at 2,094,645 gulden; 6,565,919 kilos. of lead ore, valued at 903,849 gulden; and 27,692,174 kilos. graphite, valued at 592,756 gulden: 87,396 persons were employed in these mines, while in the Prussian mines 239,884 persons were employed, the Prussian output being valued at 21,480,126*l.* The production of the Austrian saltworks was valued at 22,682,767 gulden; the number of employees being 9230. The out-turn from the smelting-works was valued at 28,812,528 gulden, against 38,113,889 gulden in 1873. The *personnel* in the last-named works numbered 10,590, including 9834 men, 488 women, and 268 children.

OUR MINERAL WEALTH.

It was shown in last week's *Mining Journal* that the value of the minerals raised during 1874 was nearly 58,000,000*l.*, and that metals of the value of nearly 20,000,000*l.* were manufactured. The subjoined tables will show the localities whence the several minerals were obtained.

TIN.—The produce of the mines and stream works, &c., of Cornwall and Devonshire, as returned by the mines to the Mining Record Office, to the Inspector of Mines, to the Stannary Court, and to the Duchy of Cornwall were—

	Mines.	Black tin. Tons	c.	qr.	lbs.	Value. £	s.	d.	Metal produced. Tons.
CORNWALL:—									
Western district	26	2,599	4	0	14	139,083	3	6	
West central district	85	8,852	2	0	3	483,587	19	6	
East central district	28	985	8	3	17	56,001	3	10	
Eastern district	14	637	18	3	14	32,495	16	3	
DEVONSHIRE	10	1,082	20	1	4	10,355	1	6	9724
Tin sold in the stone in both counties	23	411	10	0	0*	23,041	15	0	
Tin streams in both counties	19	146	6	1	3	6,794	2	0	
Rivers in ditto	25	—				1,881	0	0	
Total	230	14,715	7	1	27	753,241	1	7†	9724

* From 21,783 tons 3 cwt. 0 qr. 21 lbs. of tinstone.
† This represents 9724 tons of metal, of the value, as white tin, of 1,084,081*l.*

COPPER.—The following is Mr. Hunt's summary of the production of copper in the United Kingdom for 1874:—

Countries, &c.	Mines.	Ore. Tons.	Value of ore. £	Copper. Tons	c.	Value of copper.‡ £
ENGLAND:—						
Cornwall	78	40,455	201,368	2,770	14	249,263
Devonshire	14	12,826	52,746	916	2	82,440
Cumberland	3	813	3,663	56	18	5,050
Lancashire	2	935	4,128	75	0	6,750
Cheshire	1	8,184	6,475	89	9	7,900
Yorkshire	1	128½	2,609	35	0	3,150
Staffordshire	1	½	2	—		3
WALES:—						
Cardiganshire	2	93	338	5	16	523
Carnarvonshire	2	138	632	9	12	865
Anglesea	3	4,925	8,250	135	1	12,150
Merionethshire	1	5	45	0	15	67
Montgomeryshire	2	84	580	6	0	570
Isle of Man	1	61	289	5	8	470
IRELAND:—						
Sold at Swansea Ticketings	5	8,776	50,218	716	4	64,440
Wicklow	3	997	4,120	85	10	7,650
Regulus, precipitate, &c., sold at Ticketings	—	100	950	74	0	6,600
Total of United Kingdom	119	78,521	336,415	4,981	11	447,891

‡ Computed.

LEAD AND SILVER.—The returns of lead ore made to the Inspectors of Metalliferous Mines have been generally adopted. In some few cases the returns made to the Mining Record Office have been preferred. The total quantity of lead ore raised and sold in the United Kingdom during 1874 and silver obtained was—Lead ore, 76,151 tons 12 cwts.; lead, 58,754 tons 10 cwts.; and silver, 509,558 ozs.; the total value of which would be—Lead ore, 1,024,107*l.*; lead, 1,298,463*l.*; and silver, 127,389*l.* 10s. Subjoined is the summary of lead ore, lead, and silver produce of 1874:—

Counties.	Lead ore. Tons.	c.	Lead. Tons.	c.	Silver. Ozs.
ENGLAND:—					
Cornwall	3,119	14½	2,337	3	85,304
Devonshire	451	14	311	13	7,809
Somersetshire	1,479	2	402	14	400
Derbyshire	4,301	17	3,572	15	800
Staffordshire	2	15	1	19	—
Shropshire	7,773	12	6,083	16	1,912
Cumberland	2,102	7	1,574	11	10,395
Yorkshire	4,900	14	3,492	1	1,560
Westmoreland	1,372	3	945	2	13,704
Durham & Northumberland	18,839	9	15,689	12	70,336
WALES:—					
Brecknockshire	9	6	6	10	30
Cardiganshire	5,423	4	4,075	11	41,047
Carmarthenshire	496	7	391	7	1,651
Radnorshire	34	12	25	10	150
Pembrokeshire	113	0	98	0	588
Montgomeryshire	8,018	7	6,331	5	55,081
Merionethshire	218	0	167	15	584
Denbighshire	3,100	13	2,503	19	12,109
Flintshire	4,397	4	3,312	6	22,351
Carnarvonshire	1,159	3	882	4	4,042
Isle of Man	4,204	14	3,185	3	161,612
IRELAND	1,752	14	1,313	12	6,555
SCOTLAND	2,931	1	2,073	0	11,317
Total of the United Kingdom	76,201	12	58,777	8	509,277

ZINC.—The total quantities of zinc ores—principally sulphide of zinc (black jack)—of which returns have been obtained, were 16,829 tons 16 cwt. of the value of 48,195*l.* 10s. 7d., and the metallic zinc produced was 4470 tons, worth 106,773*l.* 8s. Subjoined is the summary:—

No. of Mines.	Counties, &c.	Quantities. Tons	c.	Value. £	s.	d.
	ENGLAND:—					
6	Cornwall	763	10	1,883	14	3
7	Cumberland	749	0	2,565	3	2
4	Durham and Northumberland	171	10	396	0	0
—	Derbyshire	120	0	251	0	0
5	Shropshire	659	0	2,529	15	0
	WALES:—					
1	Brecknockshire	25	0	50	0	0
9	Cardiganshire	325	19	912	0	0
4	Caernarvonshire	353	6	784	14	11
3	Denbighshire	1,763	0	6,856	0	0
3	Flintshire	1,899	11	6,061	13	3
1	Merionethshire	18	18	37	16	0
5	Montgomeryshire	2,646	18	5,263	2	0
1	Radnorshire	72	18	266	0	0
10	Sundries—England and Wales	150	0	450	0	0
3	Isle of Man	7,010	0	19,678	10	0
1	Ireland	1	0	2	10	0
1	Scotland	109	6	218	12	0
64	Total	16,829	16	48,195	10	7

MUNDIC.—Subjoined is the summary of the iron pyrites (sulphur ores) produced during the year reported on:—

County, &c.	Quantities. Tons	c.	Value. £	s.	d.
ENGLAND:—					
Cornwall	2,466	15	1,907	3	7
Devonshire	1,379	19	1,276	9	11
Durham and Northumberland	1,750	0	1,000	0	0
Lancashire	3,000	0	1,500	0	0
Staffordshire	3,700	0	2,500	0	0
Yorkshire	3,000	0	1,900	0	0
Sundries	12,500	0	6,950	0	0
WALES:—					
Carnarvonshire	1,818	0	1,300	0	0
Anglesea	652	9	440	18	4
IRELAND:—Return M. R. O.	18,272	0	13,701	15	0
Ditto, Inspector	7,669	0	5,750	10	0
Total	56,208	3	38,226	16	10

IRON ORE.—The general summary of returns of iron ore during the year shows the following results:—

Counties.	Quantities—Tons	c.	Value—£	s.	d.
Cornwall	45,005	13	34,076	6	6
Devonshire	21,313	3	15,358	5	5
Somersetshire	41,342	7	30,587	19	0
Gloucestershire	171,428	0	148,910	0	0
Wiltshire	86,620	0	17,324	0	0
Oxfordshire	38,608	10	7,721	12	0
Leicestershire	2,930	0	586	0	0
Northamptonshire	1,056,478	11	189,156	14	0
Lincolnshire	483,239	18	91,647	15	0
Shropshire	303,959	10	93,421	4	0
Derbyshire	239,292	0	128,117	4	0
Nottinghamshire	228	0	136	16	0
Warwickshire	92,214	0	39,528	0	0
Staffordshire, North	1,032,362	0	731,862	8	0
Ditto, South	141,504	18	84,734	19	0
Lancashire	914,357	7	1,132,595	12	0
Cheshire	1,000	0	600	0	0
Cumberland	1,119,666	2	1,378,501	0	6
Westmoreland	504	0	350	0	0
Yorkshire, North Riding	5,614,322	11	1,694,918	13	0
Ditto, West Riding	370,960	7	154,074	4	0
Northumberland and Durham	122,480	17	73,531	19	0
North Wales	42,227	9	22,765	4	0
South Wales and Monmouthshire	661,616	10	339,578	1	0
Isle of Man	1,143	13	787	5	10
Scotland	2,119,771	0	792,161	0	0
Ireland	140,360	4	112,089	0	0
Total iron ore production of the United Kingdom	14,844,936	10	7,313,146	2	3
"Burnt ore" from cupreous pyrites	255,000	0	—		
Iron ore imported	754,141	0	—		
Total of iron smelted in the United Kingdom	15,854,077	10	—		

COAL.—Subjoined is the summary of the coal produce of the United Kingdom, computed from the returns received by the Mining Record Office:—

	Tons.
Northumberland	6,483,550
North Durham	6,180,000
Cumberland	1,102,267
South Durham	17,900,250
Westmoreland	1,200
Yorkshire	14,812,515
Derbyshire	7,150,570
Nottinghamshire	3,127,750
Warwickshire	851,500
Leicestershire	1,100,465
Cheshire	615,105
Shropshire	1,187,950
Staffordshire, North	4,313,096
Staffordshire, South, and Worcestershire	8,389,343
Lancashire, North and East	8,095,570
Lancashire, West	7,442,950
Gloucestershire	1,147,272
Somersetshire	609,664
Monmouthshire, &c.	5,038,820
North Wales	2,425,300
South Wales	10,184,885
Scotland, East	10,182,326
Scotland, West	6,606,335
Ireland	139,213
Total of the United Kingdom	125,067,916

REPORT FROM CORNWALL.

Dec. 23.—In mining affairs generally matters remain very much in *statu quo*. There is more firmness in the market than might have been anticipated, seeing that no change for the better could be hoped for until the new year had arrived; and whenever that change does come (if the new year is destined to bring it we cannot venture to predict), there will be a rapid recovery.

The Mineral Statistics of 1874 are now before us in full, and we are enabled to examine the comparative details of our productiveness. So far as the output is concerned, there is not much to find fault with; but when we come to the receipts that is quite another matter.

Cornwall and Devon produce the whole of the tin in the United Kingdom. The total number of tin mines at work in Cornwall was 153; in Devon, 10; but in addition there were 19 stream works in both counties, and 25 river works, while 23 mines sold tin in the stone only. The total number of mines and works was thus 230, and the produce 14,715 tons, value 753,241*l.* The metal produced was 9724 tons, worth 1,084,081*l.* This was only 30 tons of metal short of 1873, but the value, owing to the fall in the standards was less by 250,000*l.* As compared with 1872 matters were even worse. There were only 227 tons of black tin less raised, but the receipts were less by over 45,000*l.* The bulk of this was of course so much direct loss to the adventurers, who had either to forego it in dividends or pay it in calls—too frequently the latter. Dolcoath (we lump in the shillings and pence) was at the head of the list, with 1121 tons, producing 65,559*l.* Tincroft next, with 686 tons, and 38,350*l.*; and Carn Brea third, with 652 tons, and 37,780*l.* The other mines receiving more than 20,000*l.* were—Botallack, 22,717*l.*; South Condurrow, 26,896*l.*; and Pedn-an-drea, 21,220*l.* West Basset is set down at 13,527*l.* for black tin, and at 15,000*l.* for tin stone. East Pool obtained 19,392*l.*; Wheal Uny, 17,827*l.*; Wheal Basset, 17,199*l.*; Phœnix, 16,012*l.*

The stream and Red River works were by no means flourishing. Between them all they did not produce nearly 200 tons; the total returns of the whole 44 were but 867*5l.*, and those of the Red River proper considerably under that amount. What has become of the "thousands of tons of tin washed away," concerning which there has been so much talk? Clearly the streamers are not getting it now, whatever they may have once done, and we see by the returns of the Inspector—Dr. Le Neve Foster—that these works have now dwindled to 27. Naturally they sympathise with the condition of the mining interest at large. The fewer mines, the less dressing; the cheaper the tin, the less profitable even streaming.

The two counties produced about two-thirds of the total quantity of copper raised in the United Kingdom. In fact, there are only 27 copper mines therein outside their borders. There were 78 copper mines in Cornwall and 14 in Devon, producing 51,247 tons of ore, value 251,978*l.* South Caradon raised 5502 tons, realising 38,063*l.*; Devon Great Consols, 5694, producing 23,012*l.*; West Wheal Tolgus, 3625 tons, worth 22,455*l.*; Glasgow Caradon, 2952, 14,421*l.*; Marke Valley, 4325, 14,830*l.*; Crenver and Abraham, 2710, 13,241*l.*; West Wheal Seton, 2237, 10,858*l.* As compared with recent years there are indications of a slight revival, and what falling off there is is more in receipts than in quantity. But, as compared with 1865, the contrast is painful—121,253 tons of copper ore raised in Cornwall ten years since are now only represented by 40,455, and 38,156 in Devon by 12,826.

In the matter of the production of lead Cornwall and Devon do not figure so prominently. They raised only about a twenty-first part of the lead produced in the United Kingdom; but their proportion of silver was much larger, nearly a fifth: 16 mines in Cornwall produced 3119 tons of lead ore and 85,304 ozs. of silver; seven in Devonshire, 451 tons of lead ore and 7809 ozs. of silver. The value of the produce of West Chiverton was 19,296*l.*; of Old Treburgett, 15,145*l.*; Mary Ann, 8597*l.*; Herodsfoot, 6555*l.*; and now Mary Ann is gone, and there are decreases elsewhere also.

Of zinc ore (blende) the two counties produced, or rather six mines in Cornwall, 763½ tons, worth 1883*l.*

Of mundic we produced about the twelfth part of the yield of the kingdom. Ten mines in Cornwall yielded 2467 tons, value 1907*l.*; eight in Devonshire, 1310 tons, value 1276*l.*

Arsenic is the West of England monopoly. It was produced by twenty mines in Cornwall and five in Devon to a total of 4768 tons, worth 21,483*l.* Of this Devon Great Consols alone produced 1842 tons, worth 12,762*l.*

The two counties likewise produce all the manganese raised in the country except 40 tons. Twelve mines in Devon and Cornwall produced 5738 tons of manganese, worth 29,041*l.*; but 5054 tons, worth 25,272*l.*, came from Chillaton and Hogstor only.

Cornwall and Devon also yielded over half of our ochres, and numbers 3584 tons, worth 2283*l.*

Of iron ore Cornwall produced from 32 mines 45,055 tons, worth 34,076*l.*; Devonshire, from 10 mines, 11,328 tons, worth 7881*l.* This is but an infinitesimal proportion of the 14,844,936 tons set down for the United Kingdom, but in this respect we live in hope.

Then among the miscellaneous minerals are—bismuth (East Pool), 38*l.*; wolfram and tungstate of soda (ditto), 545*l.*; fluor-spar, 609 tons, 300*l.*; silver ore (Prince of Wales), 20*l.*

Cornwall and Devonshire yielded also 226,309 tons of china clay and stone, worth 212,165*l.*; and 61,607 tons of potters' clay, worth 31,244*l.* Cornwall had 119 china clay works, and Devonshire 10, besides five works of pipe and potters' clay. Of the St. Agnes clay 1818 tons were raised.

We hear it is stated that at the next Cornwall Assizes an action will be brought involving a very considerable sum of money—it is said 65,000*l.*—in connection with the financial arrangements of the Cornwall Minerals Railway and the Cornish Consolidated Iron Mine Corporation. The allegation is that certain important agreements have wholly failed to be carried out, and that the action or actions will be brought to enforce them. The agreements are before us, but at present we abstain from comment.

The triple meetings on Friday resulted in the adoption of the scheme of railway amalgamation to which we have alluded, and unless Parliament interferes, which is hardly likely, the British and South Devon lines, with their branches, will be absorbed in the Great Western Company, which will thus become the sole owner of the Cornwall lease, and sole proprietor of the West Cornwall line. It does not appear probable that any terms will be offered to the unfortunate Cornwall shareholders. Perhaps when the deficit has accumulated to a certain amount the line will be taken in execution. Something of that sort appears to be the policy. If so it is only of a piece with the way in which the Cornwall line has been treated from first to last.

A curious case, involving the rights—or, perhaps, we should rather say, the claims—of the Duchy of Cornwall, has just been decided by Mr. Montagu Bere, Q.C., the judge of the Cornwall County Court. The Penryn Corporation claim the foreshore there under a conveyance from the Ecclesiastical Commissioners, and the latter claim as representing the see of Exeter, which is held to have had no title. They also claim under a conveyance from the Duchy in 1865. The question then arose what title the Duchy had to convey the foreshores to the Commissioners. Mr. Bere said it had been decided that the mines and minerals belonged to the Duchy, but it would have been easier and more explicit to have conveyed, not only the mines and minerals, but also the soil under which they lay, because in Cornwall, and also in a great number of mining counties, it did not follow that the mines and minerals, and the soil above, belonged to the same person. By the Cornwall Submarine Mines Act the soil in, upon, and under such mines and minerals and other substrata belonged to the Duchy. This seemed to pass the shore that lay above all mines and minerals; but the question was, did it pass the shore under which mines and minerals were not? If it was wanted to convey the seashore itself, why was it not said that the whole of the seashore should belong to the Duchy? Was it intended to convey the whole soil of tidal rivers in Cornwall and the whole foreshore on the sea coast in places where there were no mines or minerals? He had come to the conclusion that it was intended to do so, but in order that the question might be raised he should give a verdict for the defendant.—Mr. Jenkins gave notice of his intention to appeal for the Corporation.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

Dec. 22.—Just as the year is closing there appears to be a slight rift in the gloom which overhangs the Iron Trade. There is a buoyancy in the market which indicates a change for the better, but, so far, this district has not participated to any great extent in the improvement, though one or two establishments are better employed than they have been for some time past. Possibly the slight stir on the part of buyers is only temporary, but there is some reason for believing that the new year will bring with it a somewhat better state of things than has been experienced in the 12 months now ending; and that in course of a few months we shall hear more favourable reports of business than have been circulated in 1875.

Writing to a local journal a correspondent states that the two longest steel and iron rails ever turned out in South Wales were rolled in the Grot Mill Right of the Dowlais Ironworks very recently. One steel rail was in length 105 ft. 2 in., and the other 107 ft. 9 in. The largest rail rolled previous to these was one 89 ft., which was turned out at the Ebbw Vale Works. He further states that in the Bessemer department, with only one cupola working at the time, two 5-ton converters were turned out with one pit. For the four weeks ending Saturday, Dec. 21, no fewer than 460 casts, each cast containing 5 tons 16 cwts. of pig-iron. This gives an average of 10½ casts with the cupola every 12 hours, being by far the greatest number on record. On Saturday, however, the men finish at noon, and only five casts are taken.

Mr. E. W. Richards, the chief manager of the Ebbw Vale Company's works, has been presented by a party of friends with a testimonial, worth 100 guineas, on his leaving that neighbourhood to undertake the chief management of the works of Messrs. Bolckow, Vaughan, and Co., at Middlesborough. Mr. Richards refused to consent to subscribtions being raised by the men, thinking that the trade having been so bad of late they could not afford it. We intimated the intended departure of Mr. Richards some weeks ago.

On the whole, the Coal Trade remains in much about the same state, although the exports have shown an increase during the last week or so; but this result is brought about more by the favourable weather which has prevailed, and enabled ships to secure their cargoes with greater regularity, than to any change in the demand. Stocks seem still to be accumulating, and operations at the pits have to be rigidly restricted. The usual Christmas holidays are likely to be observed.

The directors of Richards and Co. have issued their report for the year ending September. Sinking operations have been continued at the Llanharren Colliery, and another vein of coal has been struck. No coal is being worked for sale, owing to the present unprofitable prices. The general business of the company has increased to a satisfactory extent, and the net profits are more than sufficient to pay the guaranteed dividend of 10 per cent., and it is accordingly recommended that a dividend at that rate be paid. In the present condition of the coal trade few companies can show such a satisfactory balance-sheet as this, and there must have been careful and economical management to produce so agreeable a result. The company, like several others in this district, was launched by Mr. H Russell Evans, of 52, Lombard-street, London, and Newport.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Dec. 23.—The near approach of the Christmas holidays imparts this week, as usual, increased activity to the iron-mills and forges of the district; but there is no improvement to note in the actual demand. The course of quoted prices remains on the standard of 8*l.* for common, and 10*l.* for good marked bars. There is, however, a good deal of irregularity in the rate at which transactions are really taking place, owing to the anxiety among competing makers of the common classes of iron to secure such orders as are in the market. Considerable quantities of Cleveland and other North Country iron continue to arrive in this district, at prices which largely undersell the local firms; as great a difference as 3*l.* per ton between the rates of the two districts prevailing in regard to some descriptions of iron. The demand is steady for galvanised roofing sheets, and prices are fairly well sustained. The pig-iron market shows increased strength, owing to the dearness of fuel and the scarcity of stocks in the market. The range for common cinder pigs is 3*l.* to 3*l.* 5s. per ton, an advance of fully 2s. 6d. per ton having been established within the past fortnight. There is no change in best all-mine pigs, at 4*l.* 15s. for hot air, and 6*l.* for cold air makes. The probabilities of a further reduction in the number of furnaces in operation were freely discussed on 'Change this afternoon.

An attempt is being made, with the concurrence of the leading representatives of both sides, to re establish the South Staffordshire Iron Trade Conciliation Board on a new basis, the exact features of which remain to be decided.

There are great complaints on the part of the ironmasters in South Staffordshire with regard to the difficulty experienced in obtaining deliveries or transmission of heavy goods. At Wolverhampton and Wednesbury the depôts of the London and North-Western Railway Company have been completely blocked during the past three weeks with accumulations of traffic in the shape of pig-iron, iron ore, and timber.

The South Staffordshire Coal Trade is buoyant, the demand for best household samples having again increased during the past week. The output is, indeed, scarcely equal to the requirements of the market. Best thick coal is 18s.; seconds, 13s.; lumps, 12s.; and bright engine slack, 5s. 6d. per ton. White ironstone and gubbin are in active request, at 19s. and 20s. per ton.

To-day's quotations on the Birmingham Stock Exchange included the following:—Cannock and Leecroft (Limited), 100 to 105; Cannock and Huntington Company, 2¼ prem., sellers; East Cannock Company, 100 prem.; Hamstead Colliery Company, 1½ prem.; Ivy House Colliery, 1 dis.; Mid-Cannock (20 paid), 26½; Sandwell Park Colliery, 28 to 29; Spon Lane Colliery, par sellers; West Cannock Colliery, 100 prem.

In the North Staffordshire Iron Trade there is less new business

doing as the end of the year approaches. Some small pressing orders have been received for completion before the stoppage of the works for the Christmas holidays; but as a rule sales have been deferred until the new year. No alteration in the working rate of the mills and forges is noticeable, some portion doing eight or ten turns per week, and others only half that quantity. The better brands of bar-iron maintain the prices recently quoted, but in the inferior qualities there is much underselling. Boiler plates have been quoted 10*l.* 15s. to 11*l.* per ton, and bridge and ship plates 10*l.* 10s. The reduced make of pig-iron has kept prices well up, while the local consumption of the export trade have been sufficiently extensive to keep down stocks. Coal is in plentiful supply, but prices are fairly steady.

The Sicker Safe and Strong Room Company (Limited).—At the meeting of the board, held on Tuesday, at the offices of the company, an interim dividend of 10*l.* per cent. per annum for the half-year ending Nov. 30 was declared. It was also resolved that, "in anticipation of the company taking possession of the new works at Soho, and the consequent extended operations of their business, the remainder of the 6500 shares offered in the original prospectus be issued at par, and that preference in allotment be given to existing shareholders."

Offences under the Mines Regulation Act.—At the Wilenhall Police Court, William Dudley, proprietor of the Mount Pleasant Colliery, near Bilston, was charged at the instance of Mr. J. P. Baker, Government Inspector of Mines for the district, with neglecting to observe the 14th general rule, which provides that "all entrances between the top and bottom of every working or pumping shaft shall be properly fenced." Mr. James Walker, solicitor, conducted the case for the Government. The evidence showed that a collier named Edward Jones, living at Bilston, while following the trucks in the inset in the Stinking Coal Seam, fell 27 yards into the New Mine Seam, which was also being worked. By the fall he sustained severe and permanent injury to his arm and shoulder. The defence was that a fence had been ordered for some time, but that the carpenter had neglected to make it. The magistrate pronounced the offence to be of a very serious character, and fined the defendant in the full penalty of 2*l.* and costs. The defendant was now further charged with neglecting to provide a register of the names, ages, and addresses of his workpeople, as ordered in the 13th section of the Act. Mr. W. Scott, Government sub-Inspector, had visited the colliery on Oct. 13. He asked for the pit register, but it was not given him. Six months ago he had warned the defendant against not keeping a register, for it had not been produced when required. In defence it was submitted that the neglect of not having the register was accidental. All the other books required by the Act were kept at the office. For this offence the defendant was mulcted in a further penalty of 2*l.* 10s. and costs.

Alleged Invention of an Alloy for Gold.—At the Birmingham County Court, John Moore Kemp, gold plater, of Linwood Lodge, Gravelly Hill, sued Henry J. Cox, farmer, Acock's Green, Solihull, for a return of 50*l.*, paid under a memorandum of agreement for the sale of a certain discovery in the manufacture of gold, the consideration of which agreement it was alleged had failed. Mr. Young, instructed by Mr. T. Walker, appeared for the plaintiff, and Mr. Tanner for the defendant. In August, 1874, the defendant went to the plaintiff and represented that he had discovered an alloy for the manufacture of gold, and offered to sell the secret for 300*l.* He submitted a stone ring as a sample of the invention, and this resisted the action of nitric acid. Relying upon the representations of the defendant, together with the fact that the sample ring withstood the test, the plaintiff ultimately agreed to pay 150*l.* for the secret.

An agreement was drawn up, in which the defendant and a gold-plater named John Poppenberg, who was acting as agent for the defendant in the manufacture of the alloy, undertook to give the plaintiff all the information required as to the alloying and melting of the gold, which they undertook should be "equal in colour and resistance to nitric acid with a certain stone ring deposited, and producible at 20s. per ounce." The defendant represented that platinum, one of the principal ingredients in the manufacture, could be purchased at 20s. 6d. per ounce, and that he could produce the alloy of the same colour, resistance, and as workable as the sample ring. The plaintiff thereupon authorised his manager (Mr. Willcox) to sign the agreement on his behalf, and pay a deposit of 50*l.* on account.

A short time afterwards the plaintiff went to Poppenberg's place of business, and the latter took certain metals—consisting of gold, silver, copper, and platinum—and put them in a crucible and melted them. The ingredients were melted four times, and the plaintiff took one of the pieces that had been melted and sent it to be rolled; but in the rolling it cracked, and proved utterly useless. He also found that platinum could not be obtained under 25s. an ounce for scrap and 30s. for good metal. A ring made from the alloy was unable to withstand the test of the nitric acid, and consequently the plaintiff wrote to the defendant and demanded the return of the deposit, as there was a failure of the conditions of the agreement. The plaintiff, on being cross-examined by Mr. Tanner, said that he had decided to purchase the secret merely to prevent its being obtained by other members of the trade, and had no intention of making use of the invention himself. His only object in testing the alloy so carefully was to be sure that he had value for his money.

After evidence had been given in support of the plaintiff's case, Mr. Tanner raised an objection to the agreement being received in evidence, as it was not stamped.—Mr. Young contended that it was admissible, as it was not a sale of goods under the statute of frauds.—His Honour, however, held that it was necessary to obtain the exact language of the agreement, and that agreement could not be received unless it was stamped.—Mr. Young, on behalf of the plaintiff, then agreed to pay into court 11*l.*, being the amount of the duty and the penalty for not having the agreement stamped.—On the case being resumed, Mr. Tanner further argued that the action could not go on, inasmuch as there was an action pending in the same cause in the Court of Queen's Bench.—The plaintiff, on being questioned by the Judge, said that it was his impression that the action in the superior Court had been withdrawn; but, in the absence of proof to that effect, his Honour decided to adjourn the case till the 24th prox., on the plaintiff's counsel undertaking that in the meantime the prior action should be discontinued.

TRADE OF THE TYNE AND WEAR.

Dec. 22.—There is a good demand for house coal both for home consumption and for shipment. Gas coal is also good, but for manufacturing coal there is very little demand. Small coal can now hardly be got rid of at all, even when offered at 2s. 6d. per ton in some localities. Of course, good smiths' coals realise better prices. The demand for coke, owing to the dull state of the finished ironworks, is very poor, and the late quotations are with difficulty maintained. Messrs. Strakers and Love, extensive makers of coke in the Auckland district, are about to stop another large colliery; other masters have also given notice to their men, as they intend to reduce the output.

There is no change in the Finished Iron Trade, and much distress prevails amongst the ironworkers on the Tees. The Pig-Iron Trade continues to improve, and prices are very firm at, No. 1, 56s.; No. 3, 51s.; No. 4, forge, 49s. 6d. net cash. There is a good demand for Scotland, and for the southern and western districts. Shipments, of course, fall off in December. As the make of pig-iron is being reduced some improvements in prices may be expected in the spring.

REPORT FROM LANCASHIRE AND CHESHIRE.

Dec. 23.—On Tuesday, at the Clarence Hotel, Manchester, several members of the Miners' Board of Conciliation for the district of Ashton, Dukinfield, Hyde, Denton, Haughton, Bardsley, and Bradford, had a conference with a committee of colliery proprietors upon the questions in dispute between them. The proprietors' committee was represented by Mr. P. Rothwell, of the Denton Colliery Company (Limited); Mr. Garforth, of Lord's Field; Mr. Buckley, of Lime Hurst; Mr. Marland, of Newton Moor; Mr. Wheeldon, of the Victoria, Dukinfield, and others. The Conciliation Board was represented by Mr. W. Wildman, jun., Haughton; Mr. Joseph Tomlinson, Dukinfield; Mr John Cooper, Bardsley; and Mr. S. Stansfield (general secretary). The first question discussed was the proposed substitution of weekly for fortnightly payments. The delegates contended that in all other forms of labour the workmen received their wages weekly, and practically it was a great hardship for colliers to be kept out of their pay. It caused much inconvenience to their wives and families, and it was impossible to supply their household requirements properly. The proprietors doubted the reality of the "grievance," and argued that under the present system the colliers were free from the temptation to become unsettled in their work at the end of every week. Besides, a system of weekly payments would involve far more expense than the colliers might be aware of, and that was a matter that would have to be taken into consideration in respect of the rate of wages. In any case, it would operate unfavourably in the future for any advance. The Board said that they would report to the men the decision the employers had come to. The next question was an application for an advance in wages to the rate existing before the last reduction—about 7½ per cent. This application was met with a decided refusal. The owners stated that there was nothing in the coal trade just now that could justify such an application. The newspaper prices did not show the true state of affairs, for as a matter of fact coal was not advancing in value; indeed, the tendency was rather the other way. The board requested that the owners would not come to a final decision, as it was the intention of the miners to hold a further conference on the subject. It is understood that the delegates will meet the men on Wednesday next at Ashton.

Earl Fitzwilliam has had an unpleasant experience of the anxieties which even a great nobleman must encounter if he undertakes to carry on business as a coalowner. Nearly two years ago his lordship, having been involved in loss at his colliery at Low Stubbin by the conduct of the colliers, gave orders that the mine—a large and valuable one—should be closed, and it has not since been worked. The colliers have petitioned his lordship to re-open the mine, and in reply to their memorial he writes, in a very decided tone, that he does not feel disposed to risk his capital in their hands. The tie was broken, not by him, but by them, and he has no mind to "again expose himself to the trouble and annoyances of the last few years." The noble earl brings a series of charges against the memorialists, and intimates that the mine will not be re opened—if at all—until they shall have discarded the "false friends" on whom they have relied in opposition to their employer. Lord Fitzwilliam is, of course, acting within his legal rights, but it is perhaps fortunate that not every coalowner can afford to imitate his policy in this matter.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Dec. 23.—Of late there has been a little more activity in some parts of the lead district of Derbyshire, but it will not materially affect the year's production, for no progress has been made for a considerable time past in increasing the output of lead ore. In coal mining, however, matters are very different, and during the week so far a very good business has been done in household qualities, with a better enquiry for steam. The Iron Trade continues tolerably good, there being a very fair enquiry for foundry material, including pipes and general castings. This is what is known in Sheffield as "Bull-week," when in some instances the men work night and day, so as to be prepared for the holidays; and although the general trade of the town is the reverse of active, yet in several branches the men have been able to make a good deal of overtime. The heavy plate-mills have been running well on Government and other orders, and rather more has been done in Bessemer rails and forgings. The demand for house coal in South Yorkshire has been very good, particularly for the London market, and prices remain firm. The use of gunpowder in mines has for some time occupied the minds of many of the workmen, who in some instances have refused to have it, but at the same time they wish to receive quite as much money by the slower, but safer, mode of bringing the coal down by wedging. At one large colliery in the district the men have been on strike against the use of powder, and an advance of wages for wedging. This is one of the results of the Swaithe Main explosion, but it must not be overlooked that if the men wished for increased safety they should be prepared to make a little sacrifice themselves. A considerable number of men have been out for a long time from some of the pits of Mr. Day, but some advance has been made that is likely to work being resumed.

A Colliery Proprietor Fined.—Mr. James Stott, colliery proprietor, was fined 10*l.* by the Bolton County Bench for allowing two disused coal shafts to remain in a dangerous condition at Unity Brook, Kersley. Mr. Dickinson, the Government Inspector of Mines, said the shafts were covered with rotten planks, which acted more as a trap than anything in the shape of security.

Flanged Boiler Plates.—The Bowling Iron Company are noted for the excellent boilers and iron plates that they turn out. They have recently opened a new department for flanging iron plates for marine boilers by machinery. Formerly this process was done by hand, and took a long time to execute. Now it can be done expeditiously. We have been shown a photograph of a plate made in this way, 13 ft. in diameter, with flanges 7½ in. deep, and were informed that this was the largest flanged plate made in Yorkshire. The heating furnaces for slab boiler plates at Bowling are now worked by gas made under Siemens' patent.

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

Since my last report there has again been a moderate business done, the market continuing steady, and prices generally higher. In shares of iron and coal concerns the principal movement has been in Nant-y-Glo and Blaina preferred, at 2½ higher. Scottish Anstralian new shares (last issue) offered at 1s. 6d. premium. West Cumberland Iron and Steel shares are higher, at 13½ to 14½. Whitehaven Iron, 3½ to 4½. In shares of foreign copper concerns—Tharsis, 1½; Cape, ¼: Tharsis (new), ½—all higher per share, but the two Canadian concerns lower. A satisfactory report will be found elsewhere of the Yorke Peninsula. In home undertakings the principal business has been in Glasgow Caradons, which at 35s. show a rise of 4s. 6d. per share on the week. The other quotations are—Bedford United, 1¼, buyers; Drake Walls, ⅞, sellers; Great Laxey, 15½ to 16; Gunnislake (Clitters), 63s., sellers; Hingston Down, ⅞, buyers; Killifreth, ¼, sellers; Marke Valley, 3¼, buyers; Penstruthal, 7s. 6d. to 8s. 6d.; Prince of Wales, 4s. 6d., buyers; Tyllwyd, ⅞, sellers; South Roskear, 1½, sellers; West Eagair Lle, ¼, sellers; West Maria, 5s. 6d., buyers; Wheal Basset, 8¼ to 9. In shares of gold and silver mines, Flagstaff is ½, and Emma 1s. 6d.—both higher. Richmond shares have fallen ¾. Tecoma shares remain ¼ buyers. In oil companies' shares the upward movement in Young's Paraffin shares has advanced ¾. In shares of miscellaneous concerns an improvement of ¼ is noticeable on Scottish Wagon (all paid) at 10½ to 10¾. A detailed list of the several days' business follows:—

On Thursday last a moderate business was done, the market being firm. Benhar, 14⅜ to 11⅝. Bolckow, Vaughan, A shares done at 47¼. Canadian Copper Pyrites shares done at 29s. Emma shares done at 25s., closing 25s. to 26s. Glasgow Caradon shares done at 30s. and 30s. 6d., closing 30s. 6d. to 31s. Gunnislake (Clitters), 2¾ to 3¼; Hingston Down, 18s., buyers. Huntington shares done at 27s. and 26s., also at 25s. 6d. (for cash), closing 25s. 6d. to 26s. 6d. Nant-y-Glo and Blaina (preferred) shares done at 30, closing 29 to 30. Omoa and Cleland, 53s. to 55s.; Prince of Wales, 4s. 6d., buyers. Richmond shares done at 7¼ and 7 13-16ths, closing 7⅝ to 7¾. Tecoma, 5s., buyers. Tharsis shares done at 20⅞ and 20¼, closing at these prices. Treleigh Consols, 6s., sellers; Tyllwyd, ⅞, sellers. Young's Paraffin shares done at 7⅝.

Huntington Copper and Sulphur Company (Limited).—The directors have issued a circular, from which the following are extracts:—"In the critical circumstances in which the company have been placed they have devoted their attention to the curtailing of expenses on both sides to the lowest point consistent with the due management of the company's business, and with the preservation of the mine and remaining works during the rigour of a Canadian winter. They have obtained newly-completed plans of the mine, improved plans for the restoring of the extracting works, and estimates as to cost, working profits, &c.; but all these will require the most careful consideration of the new board, should such restorations be resolved upon. They have received in the meantime a small quantity of the pyrites of various grades, which will be experimented upon in this country, with the view of testing its value and improving the results." Five new directors (four of whom are members of the committee of investigation) have signified their willingness to join the board, and the directors consider that their election would be of great benefit to the company.

On Friday the business done was again moderate. Benhar, 11 to 11¼; new shares, 6¼ to 6½. Bolckow, Vaughan A done at 47⅛, closing 47¼ to 47¾. Canadian Copper Pyrites, 29s. to 30s. Ebbw Vale done at 14. Glasgow Caradon done at 30s. 6d., closing 31s. to 33s.; new shares done at 29s. Glasgow Port Washington done at 3¼. Gunnislake (Clitters), 3⅛, sellers. Huntington, 24s. to 25s. Javali, ¾, sellers. Monkland done at 2½; 7 per cent. guaranteed preference shares, 5⅝, buyers. Nant-y-Glo and Blaina preferred done at 30, closing 30, buyers. Omoa and Cleland done at 56s., closing 56s. to 57s. 6d. Prince of Wales, 4s. 6d., buyers. Richmond done at 7⅝, closing 7⅛ to 7¾. Santa Barbara (late Pari), 19s. 6d. to 23s. Tharsis done from 20½ to 20¾, closing 20½ to 20⅝. Tyllwyd, ⅞, sellers. Tharsis new shares done at 14. West Cumberland Iron and Steel, 13 to 14.

On Saturday the market was quiet, but steady. Arniston done at 7. Benhar (new shares), 6¼ to 6½. Glasgow Caradon, 30s. 6d., buyers. Gunnislake (Clitters), 61s. to 63s. Huntington done at 25s., closing 24s. 6d. to 25s. 6d. Killifreth, ¾, sellers. Monkland done at 50s., closing 49s. to 50s. Omoa and Cleland done at 57s. and 57s. 6d., closing 58s. to 60s. Prince of Wales, 4s. 6d., buyers. Richmond done at 7¾ and 7⅝, closing 7½ to 7⅝. Tharsis opened at 20⅝, declined to 20½, but rose to 20 11-16th, closing 20⅝ to 20¾. West Maria, 6s., buyers. Young's Paraffin done at 7⅝, closing 7½ to 7¾.

On Monday a small business was done. Bedford United, 1¼, buyers. Benhar, 11⅜ to 11⅝; new shares, about 6½. Emma done from 22s. to 23s., closing 24s. to 25s. Glasgow Caradon, 30s. 6d., buyers. Gunnislake (Clitters), 63s., sellers. Huntington done at 25s., closing 23s. to 25s. Marbella, 76s. to 78s. Marke Valley, 3¼, buyers. Monkland done at 50s., closing 48s. to 50s. Omoa and Cleland done at 59s. and 58s., closing 57s. 6d. to 58s. Richmond done at 7¾, closing 7¼ to 7⅝. Scottish Australian, 1⅜ to 1⅝. Tharsis done at 20¾ and 20⅞, closing 20 13-16th to 20 15-16th; a small lot was done at 19¾. Tyllwyd, ⅞, sellers. Young's Paraffin was in good demand, and a large business done, opening at 7¾, they improved to 8 5-16th, closing 8⅛ to 8¾. Yorke Peninsula, 5 16th to ⅛; advices have been received from the committee of inspection of this company at Adelaide, dated Nov. 3 last. Capt. Anthony's report is very satisfactory, especially the conclusion: "Since my last monthly report I have sold ore realising 320*l.*; this is in addition to the 70 tons of low-quality ore mentioned then. About 65 tons are now at the works, and about 85 tons on the mine; these 150 tons, I hope, will realise 1350*l.*"

On Tuesday the market was active. Benhar, 11⅛ to 11⅜; new shares, 6¼ to 6½. Bolckow, Vaughan, A, done at 47½. Ebbw Vale, dull, done at 13¾ and 13 9-16ths, closing 13⅝ to 13¾. Emma, done at 23s. 6d., closing 23s. to 25s. Frontino and Bolivia, 1 11-16ths to 1 13-16ths; the ordinary meeting is called for Jan. 4. Glasgow Caradon, done from 31s. 6d. to 32s. 6d., closing good at 33s. to 35s. Gunnislake (Clitters), 63s., sellers. Hingston Down, ⅞, buyers. Huntington, done at 23s., closing 23s. to 25s. Marbella, 77s. to 78s. Nant-y-Glo and Blaina, preferred, 30 to 35. Omoa and Cleland, done at 56s., closing 54s. to 56s. Prince of Wales, 4s. 6d., buyers. Richmond, done at 7⅜, closing 7¼ to 7⅜. Tharsis shares were largely dealt in, opening at 21¼; the price steadily advanced to 22, closing 22 to 22⅛; new shares done at 14½ and 14¾, closing 14½ to 14⅝. Young's Paraffin were again in good demand, and changed hands from 8⅛ to 8¼, closing 8¼ to 8⅝. Scottish Wagon, 10½ to 10¾.

The following are this week's prices of some stocks, shares, &c., occasionally dealt in on this market, but not quoted (with few exceptions) on any of the Scotch Stock Exchanges:—Iron, Steel, and Coal Companies: Andrew Knowles and Sons, 24⅛ to 24⅜; Bolckow, Vaughan, & Co. "B," 42½ to 43; Britannia Ironworks, 10; Cardiff and Swansea Steam Coal, 2½ to 2¾; Chapel House Colliery, 3½; Consett Iron Ore, 20¼; Gauley Kanawha Coal, 5, sellers; Great Western Colliery, 11½ to 12; Gellydeg Colliery pref., 9, sellers; Ifton Rhyn Colliery, ½ to 1; Lehigh and Wilkes Barre 6 per cent. first mortgage, guaranteed by Central Railroad of New Jersey (U.S.), 92 to 94; Llynvi, Tondu, and Ogmore Coal and Iron, 23½ to 24½; Llynvi Valley Colliery, pref., 9, sellers; Mersey Steel and Iron, 4⅞ to 5; Mwyndy Iron Ore, 2; Newport Abercarn Colliery, 4 to 5; North Lonsdale Iron and Steel, 6 to 5 dis.; Powell's Llantwit Colliery, ½ to 1½; Scottish Australian new shares, 1s. 6d. prem., sellers; Ulverstone Mining, 10⅛ to 11; West Cumberland Iron and Steel, 13½ to 14½; Whitehaven Iron, 3½ buyers.—Copper, Lead, Tin, &c., Co.'s: Bedford, 1¼ buyers; Bensberg Lead, 3½ to 4; Bowden Hill Manganese, ½, sellers; Cook's Kitchen, 6 to 6½; Coplapo Mining and Smelting, 3¾; Dolcoath, 40 to 41; Drake Walls, ⅞, sellers; East Caradon, 1¾ to 2; East Wheal Grenville, 1s. 6d., sellers; Elgar, 1, sellers; Great Laxey, 15½ to 16; Great West Van, ¼ to ½; Gunnislake (Clitters), 3 to 3¼; Hingston Down, 18s. buyers; Killifreth, ¼; Old Talargoch Lead preference, 10, sellers; Marke Valley, 3⅛, sellers; New Consols, 1⅝, sellers; New Pembroke, ⅛, sellers; New Quebrada, 4; North Hendre Lead, 3 to 4; Pary's Mountain, ⅛ to ⅝; Penstruthal, 7s. 6d. to 8s. 6d.; Prince of Wales, 4s. 6d.; Plynlimmon Lead, ¼; Rio Tinto, 6; Snowbrook, 5, sellers; South Condurrow, 5½ to 6; South Roskear, 1⅛, sellers; Van, 29 to 30; West Basset, 5½ to 6; West Eagair Lle, 1, sellers; West Maria and Fortescue, 5s. 6d., buyers; West Poldice, 24; West Wheal Frances, 8½ to 9½; Wheal Basset, 8¾, sellers; Wheal Kitty (St. Agnes), 2¾, buyers; Mary Hutchings, ⅛; Yorke Peninsula 15 per cent. guaranteed preference, ⅝ to ⅞; Yorkshire Mining, 3-16ths to ¼.—Gold and Silver Companies: Almada and Tirito, ⅛ to ¾; Argentine, 6½ to 6⅝; Australasian Mines Investment, ½ to ⅞; Basye Consols Silver, 5, sellers; Battle Mountain, 1 to 1⅛; Cedar Creek, ¾; Chontales, ¼ to ½; Colorado Terrible Lode, 2 to 2⅛; Don Pedro North del Rey, ¾ to ⅞; Eberhardt and Aurora, 8⅛ to 9; Exchequer, ¾ to 1; Frontino and Bolivia, 1⅜ to 1⅞; I.X.L., 9; Gold Run, 18s., sellers; Javali, ½ to ⅝; Malpaso, ⅝; New Pacific, ¼; New Zealand Kapanga, ½ to 1; Pestarena United, ⅛; Port Phillip and Colonial, ⅜ to ⅞; Rica, 2s. to 4s.; Santa Barbara (late Pari), 1 to 1⅛; South Aurora, ¼ to ⅜; Sweetland Creek, 2¼ to 3; Tecoma, ¼, buyers; Thornhill Reef, ⅛; United Mexican, 2¾ to 3¼; Welsh "The," Gold, ¼; Winter's Freehold, 3½, sellers.—Miscellaneous Companies: Aberdeen Lime, 7⅛; Bede Metal and Chemical, 3¼ dis.; British Agricultural Association, 2 to 3; ditto 7 per cent. preference, 5, sellers; Congleg Slate and Slab, 10, sellers; General Sewage and Manure, 4 to 5; Langdale's Chemical Manure, 5⅝; Lawe's Chemical, 7¼ to 7½; ditto 7 per cent. preference, 10, sellers; Native Guano, 3¼; Newcastle Chemical, 3¼ dis.; North Cornwall Kaolin, ¾, sellers; Phospho-Guano A, 7; ditto B, 2½; Thames Chemical, 5, sellers; and subjoined are the latest prices, &c., of those quoted on the Stock Exchanges:—

Capital. Per share.	Paid up.	Dividends. Rate per cent. per annum. Previous.	Last.	Description of shares.	Last price.
				COAL, IRON, STEEL.	
£10	£8	£10	£10	Arniston Coal (Limited)	7
10	10	14	9	Benhar Coal (Limited)	11⅜
10	6	14	9	Ditto	6½
100	35	12½†	12½	Bolckow, Vaughan, and Co. (Lim.), A.	47½
10	10	10	10	Cairntable Gas Coal (Limited)	10¾
10	10	5	nil	Chillington Iron (Limited)	5
52	29	7	½†	Ebbw Vale Steel, Iron, and Coal (Lim.).	13¾
10	4	nil	nil	Fife Coal (Limited)	4
10	10	—	—	Glasgow Port Washington Iron & Coal (L)	3¾
10	10	—	—	Ditto Prepaid	3¾
10	10	—	—	Lochore and Capledrae (Limited)	5
10	10	5s 7d†	5	Marbella Iron Ore (Limited)	78s.
10	10	5	nil	Monkland Iron and Coal (Limited)	2½
10	10	7	7	Ditto Guaranteed Preference	5½
100	100	nil	nil	Nant-y-Glo & Blaina Ironworks pref. (L)	32½
10	4	15	nil	Omoa and Cleland Iron and Coal (Lim.).	56s.
1	1	15	12½	Scottish Australian Mining (Limited)	1½
50	50	10	5	Shotts Iron	65
10	8	10	5	Ditto New, issued at 2½ prem.	8
				COPPER, SULPHUR, TIN.	
10	7	—	—	Canadian Copper Pyrites (Limited)	29s.
10	10	—	—	Ditto All paid	6½
10	7	20s‖	20s‖	Cape Copper (Limited)	37½
2	2	—	—	Dunsley Wheal Phœnix Tin (Limited)	2s.
1	1	12½	12½	Glasgow Caradon Copper Mining (Lim.).	1¾
1	15s.	12½	12½	Ditto New	19s. 9d.
10	9	—	5	Huntington Copper and Sulphur (Lim.).	23s.
25s.	23s.	—	—	Kapunda Mining (Limited)	½
4	4	—	—	Panulcillo Copper (Limited)	1¼
10	10	nil	nil	Russian Copper (Limited)	3¼
10	10	25	25	Tharsis Copper and Sulphur (Limited)	22
10	7	25	25	Ditto New	14½
1	1	—	—	Yorke Peninsula Mining (Limited)	½
				GOLD, SILVER.	
20	20	—	—	Emma Silver Mining (Limited)	23s. 6d.
10	10	—	—	Flagstaff Silver Mining (Limited)	1
5	5	—	—	Last Chance Silver Mining (Limited)	¾
	5	—	85	Richmond Mining (Limited)	7¼
				OIL.	
10	7	2½	5	Dalmeny Oil (Limited)	5½
10	10	—	—	Uphall Mineral Oil (Limited)	5
10	8½	5	5	Young's Paraffin Light & Mineral Oil (L)	8¼
				MISCELLANEOUS.	
50	25	16	16	London and Glasgow Engineering & Iron Shipbuilding (Limited)	21½
20	11½	—	—	Peruvian Nitrate (Limited)	11¼
10	10	8	5	Scottish Wagon (Limited)	10½
10	4	8	5	Ditto New	4¼

† Interim. ‖ Per share.

Last day for this account Dec. 24; settling day, Dec. 30.

Note.—The above list of mines and auxiliary associations is as full as can be ascertained, Scotch companies only being inserted, or those in which Scotch investors are interested. In the event of any being omitted, and parties desiring a quotation for them and such information as can be ascertained from time to time to be inserted in this list, they will be good enough to communicate the name of the company, with any other particulars as full as possible.

J. Grant Maclean, Stock and Share Broker.

Post Office Buildings, Stirling, Dec. 23.

MISCELLANEOUS MINERALS.

It appears from Mr. Hunt's Statistics that the value of the miscellaneous minerals raised during 1874 was 68,479*l.* 17s. 6d. Of this amount 1440*l.* 10s. is represented by 385 ozs. 12 grs. of gold raised from the Vigra and Clogau Mine, Merionethshire. Of silver ore, 2½ tons were raised from the Prince of Wales (Harrowbarrow) Mine, and realised 20*l.* The arsenic and arsenic soot raised were of the value of nearly 27,500*l.* The largest sale was that of Devon Great Consols, where 1842 tons were sold for 12,762*l.*, or nearly 7*l.* per ton; next comes East Pool, selling 514 tons for 2441*l.*; then New Great Consols, with 558½ tons for 2362*l.*; South Wheal Crofty, Wheal Maria and Fortescue, West Wheal Seton, and Wheal Friendship following next in succession. Nearly the whole of the manganese was obtained from Chillaton and Hogstor, which yielded 505½ tons, and sold for 25,272*l.* 10s. Newton St. Cyrus sold 304 tons for 2018*l.*, and small quantities were sold from 11 other mines, the aggregate being 5778 tons, of the value of 29,201*l.* The only mine which sold bismuth was East Pool, and its value was but 38*l.* 8s. 3d. for the parcel.

Of ochre and umber Cornwall produced 1832 tons, of the value of 617*l.*; Devonshire, 1752 tons, worth 1666*l.*; Glamorganshire, 359 tons, of the value of 175*l.* 10s.; Cardiganshire, 60 tons, worth 30*l.*; Anglesea, 2962½ tons, worth 648*l.*; and the Isle of Man, 156½ tons, worth 500*l.* Wolfram was produced in marketable form at East Pool only, where wolfram and tungstate of soda together realised 545*l.* For fluor-spar Tamar Valley Mine got 300*l.* for 609 tons, and Snailbeach, 17*l.* 15s. for 25½ tons. No plumbago is returned as having been sold during 1874, but Mr. Hunt mentions that on Oct. 13, 1875, a large deposit of plumbago was discovered at Borrodale, in Cumberland.

"SILICATE COTTON."

An improved material for jacketing steam-boilers, coating steam-pipes, &c., has been introduced by Mr. F. Krupp, of Essen, who considers his "Silicate Cotton" to be the only material which, under all circumstances, is a thoroughly efficient non-conductor, and is not in the least affected by the highest degree of heat. Messrs. Cresswell and Co., of Leadenhall-street, who have undertaken the agency for this country, point out that amongst its advantages are its extreme lightness on boilers, its incombustibility (which is proved by the fact that it can be placed into glowing fire until red-hot without the slightest effect produced on it), and the resistance it gives to any other destructive power, make it an article which will soon become indispensable; indeed, many large firms have already stripped the old coating from the boilers and substituted Krupp's. They maintain that, although certain coatings, still in the market, may have at first answered the purpose tolerably well, they have more or less all shown a strong tendency to char after a time, and consequently lost their non-conducting power, while many coatings have soon cracked and peeled off, especially on marine boilers, owing to the vibration. Some, again, are of such a nature that it is impossible to detect a leak.

All these difficulties are successfully overcome by Mr. Krupp's material, and the mode of application is at once simple and effective. The quickness of applying the silicate cotton is an immense advantage in the case of steamships, which frequently stay but a very short time in port, and by having the matresses previously prepared according to requisite size, the boilers of the largest vessel afloat could easily be coated in a single night. Marine engineers show a strong preference for the coating, because it does not rot or fall off in consequence of the seas which constantly come in through the skylights and wash over the boiler. Many high authorities have pronounced the article the most powerful non-conductor in existence.

Waterproof Compounds.—Mr. Newton (for L. Requa, of New York) has patented an invention to obtain cheap and efficient compound for coating textile fabrics, and rendering them acid and waterproof. The following are the proportions of the materials preferred to be used:—Cleaned and masticated India-rubber, 6 lbs., dissolved in benzine or other solvent; to this is added 15 lbs. of whiting or chalk, 5 lbs. of oxide of zinc, 2 lbs. of asphaltum, 7 ozs. of pulverised sulphur, and 2 lbs. of lamp black.

COAL MINES REGULATION ACT, 1872.

EXAMINATION FOR MANAGERS' CERTIFICATES OF COMPETENCY.

DISTRICT UNDER THE CHARGE OF THOMAS E. WALES, Esq., H.M. INSPECTOR OF MINES.

NOTICE IS HEREBY GIVEN, that an EXAMINATION for MANAGERS' CERTIFICATES OF COMPETENCY, under the above-named Act, will be HELD on the 25th, 26th, and 27th days of January, 1876, and CANDIDATES INTENDING TO PRESENT THEMSELVES AT SUCH EXAMINATION must, on or before the 12th day of January, 1876, notify such intention to the Secretary of the Board of the above-mentioned district, from whom all information as to particulars can be obtained.

By order of the Board,
CHAS. HY. JAMES, Secretary,
8, Courtland-terrace, Merthyr Tydfil.

N.B.—Persons who do not reside within the district are equally eligible for examination with those who do.

STEPHENSON MEMORIAL HALL,

CHESTERFIELD,

FOR THE ADVANCEMENT OF SCIENCE, LITERATURE, AND EDUCATION.

AT a PUBLIC MEETING, in CHESTERFIELD, on 9th December instant
(His Grace the Duke of DEVONSHIRE in the chair),

Subscriptions amounting to £5200 were announced. Among the speakers were—The Mayor and ex-Mayor of Chesterfield, Lord Edward Cavendish, Admiral the Hon. F. Egerton, M.P., Prof. James Stuart, M.A., Honorary Secretary to the Syndicate for University Extension, Cambridge, Rev. J. M. Mells, M.A., F.G.S., Messrs. Chas. Binns, J. Stores Smith, J. Shipton, F. Swanwick, A. Carrington, and A. Barnes.

Additional amount required, £4800.

From admirers of George Stephenson, and friends of higher education throughout the kingdom, SUBSCRIPTIONS ARE EARNESTLY INVITED.

Communications to be addressed to the Secretary, Mr. W. F. HOWARD, Assoc. Inst. C.E., 13, Cavendish street, Chesterfield.

9th December, 1875.

LOCOMOTIVE TANK ENGINES

FOR MAIN LINE TRAFFIC, SHORT LINES COLLIERIES, CONTRACTORS, IRONWORKS, MANUFACTORIES, &c., from a superior specification, equal to their first-class Railway Engines, and specially adapted to sharp curves and heavy gradients, may always be had at a short notice from—

MESSRS. BLACK, HAWTHORN, AND CO.,
LOCOMOTIVE, MARINE, AND STATIONARY ENGINE WORKS,
GATESHEAD-ON-TYNE.

THE STANDARD LUBRICATING OILS COMPANY

(LIMITED),
95, CANNON STREET, E.C.

The SPECIALITY of the COMPANY'S OILS consists in their CHEAPNESS and FREEDOM from GLUTINATION.

AGENTS WANTED.

G. E. SIMPSON, OF No. 6, GREAT WINCHESTER STREET BUILDINGS, LONDON, E.C., INVITES APPLICATIONS FOR SHARES IN

THE CROWN FIRE INSURANCE COMPANY, LIMITED.

Incorporated under the Companies Acts, 1862 and 1867.

Capital £1,000,000, in 200,000 Shares of £5 each,
With power to increase.

First issue of 10,000 shares, payable as follows:—£1 on application, £1 10s. on allotment.

Further calls, not exceeding £1 per share, at intervals of not less than three months.

PRESIDENT.

The Hon. FREDERICK WALPOLE, M.P., Rainthore Hall, Norfolk.

DIRECTORS.

Sir HENRY GOOLE, Bart, West Croydon, Surrey.
The Hon. O. G. LAMBART, 7, Albemarle-street, W.
F. GARLAND MYLREA, Esq., 41, Redcliffe Gardens, South Kensington.
Lieutenant-Colonel C. G. PERCEVAL, 1, Whitehall Gardens, S.W., and Uphill House, Mill Hill, N.W.
Major A. B. S. SHAIRP, The Woodlands, Isleworth, Middlesex.
W. H. WEBSTER, Esq. (Messrs. Armstrong and Webster), 71 and 75, Great Tower-street, E.C.

SOLICITORS.

Messrs. SUMMERLIN and HERITAGE, Size lane, Queen Victoria street, E.C.

BANKERS.

METROPOLITAN BANK, CORNHILL, E.C.

AUDITORS.

Messrs. T. RUSSEL and CO., 8, Leadenhall-street, E.C.

MANAGER.

Mr. JOHN STEDWELL DRAGE.

HEAD OFFICES,—9, GREAT WINCHESTER STREET, E.C.

SHARE PROSPECTUS.

The Crown Fire Insurance Company (Limited) is formed for the purpose of extending facilities for the insurance of property against loss or damage by fire, more especially as regards merchandise, buildings, mills, manufactories, farming stock, &c.

That there is ample room for a new fire office may be assumed from the fact that it has been proved before Parliament, and has been abundantly confirmed by statistics, that two-thirds, amounting to £3,000,000,000 sterling, of the destructible property of the United Kingdom is not covered by fire insurance, and this description of property is increasing at the rate of £200,000,000 annually. Consequently there is ample field for the safe and profitable investment of capital in this direction.

The leading feature of the Crown Fire Insurance Company (Limited) will be the fixing of premiums at rates adequate to the risks to be incurred. The company will not be bound by any tariff.

That the Crown Fire Insurance Company (Limited) may further enlist the confidence of the public, gentlemen of undoubted standing and integrity will be selected as directors, both for the head office and local boards. No promotion money will be paid, and the business will be conducted with due regard to economy.

The approximate annual fire premiums, after deducting re insurance, collected by the insurance offices of the United Kingdom, amount in the aggregate to over seven and a half millions, independent of amounts collected by foreign offices.

It is well known that fire insurance is a highly profitable business, the dividend in companies properly managed exceeding 65 per cent. The shares of well-managed offices have increased in value from 1000 to 7000 per cent.; consequently, fire offices are amongst the soundest and best of investments.

SPECIAL FEATURES.

The directors have determined to offer facilities to the public to effect permanent insurances by single payments on such classes of risks as they may at their option consider advisable to accept, and they anticipate this mode of insuring will meet with considerable success, and in a great measure remedy an inconvenience frequently caused to the insured by ordinary policies being allowed inadvertently to lapse.

Actual realised profits will be insured under special policies, thus enabling merchants and others, who are at present unable to cover such profits by ordinary policies, to protect their own and clients' interests.

BUSINESS.

This company will insure every description of property against loss or damage by fire, the rates of premium being regulated, irrespective of the Tariff Association, and made dependent on the nature of the buildings and trades carried on therein, commencing at 1s. 6d. per cent.

Household furniture, in first-class private houses, insured at 1s. 6d. per cent.; if including musical and mathematical instruments, china, glass, pictures, and prints, 2s. per cent.

Mills, sugar refineries, distilleries, tannaries, manufactories, and their contents insured.

Special risks on favourable terms.

Farming stock—implements, machinery, live stock, and agricultural produce insured. N.B.—Use of steam threshing machine allowed.

Animals insured will be paid for if killed by lightning.

Losses settled with promptitude and liberality.

Lightning and Gas.—Losses caused by explosion of coal gas taking place within the building insured with the company, and losses occasioned by lightning, will be made good when the property insured has been actually set on fire thereby.

Ships in harbour, river, canal, wet dock, or basin, and goods therein, may be insured at moderate rates.

Short period insurances granted. Person insuring for six years are only charged for five.

Rents insured during re-building of premises damaged by fire, not exceeding one year's rent.

Transfers.—Parties insured with other companies can have their insurances transferred to this office, free of expense, on sending their policies and last renewal notices.

Policy stamps paid for by the company.

No charge made for policies.

Prospectuses, forms of proposals, and all information may be obtained on application at any of the offices or agencies of the company.

Arrangements have been made by which a large amount of business will be secured to this company.

Applications for shares, accompanied with a remittance of £1 per share, should be sent to the company's bankers; to the head office; or to Mr. G. E. SIMPSON, of No. 6, Great Winchester-street Buildings, London, E.C.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the NORTH ROSEWARNE MINING COMPANY.—Notice is hereby given, that a PETITION for the WINDING-UP of the above-named company by the Court was, on the 16th day of December instant, presented to the Vice-Warden of the Stannaries by William Harvey, Henry Whitford, William West, William John Rawlings, William Husband, Francis Harvey, and Nicholas James West (carrying on business at Hayle, within the said Stannaries, as General Merchants, under the style or firm of "Harvey and Company"), claiming to be creditors of the said company, and that the said petition is directed to be heard before the Vice-Warden, at the Law Institution, in Chancery-lane, London, on Thursday, the 6th day of January next, at Three o'clock in the afternoon.

Any contributory or creditor of the company may appear at the hearing and oppose the same, provided he has given at least two clear days' notice to the petitioners, their solicitors, or their agents, of his intention to do so, such notice to be forthwith forwarded to P. P. SMITH, Esq., Secretary of the Vice-Warden, Truro.

Every such contributory or creditor is entitled to a copy of the petition and affidavit verifying the same, from the petitioners, their solicitors, or their agents, within twenty-four hours after requiring the same, on payment of the regulated charge per folio.

Affidavits intended to be used at the hearing, in opposition to the petition, must be filed at the Registrar's Office, Truro, on or before the 3rd day of January next, and notice thereof must, at the same time, be given to the petitioners, their solicitors, or their agents.

HODGE, HOCKIN, AND MARRACK, Truro, Cornwall
(Petitioners' Solicitors).
GREGORY, ROWCLIFFE, AND RAWLE, 1, Bedford-row, London
(Agents of the said Solicitors).

Dated Truro, December 18th, 1875.

CORNWALL.

SALE OF VERY VALUABLE MINERAL AND OTHER PROPERTY,

Including PART of the DUES from WEST CHIVERTON, &c.

AN AUCTION WILL BE HELD, BY MR. THOMAS R. OLVER, at the Royal Hotel, Truro, on the 12th January, 1876, at Three o'clock in the afternoon, for SELLING, subject to the conditions to be produced, the

LIFE INTEREST OF A GENTLEMAN,

Aged about 28 years, in various properties, embracing, amongst other lots—

LOT 1.—ONE-SIXTH of the MINES and MINERALS under the Manor of Ventongimps, in Perranzabulce, Cornwall. The celebrated West Chiverton Mine (from which the owner of the one-sixth, now offered for sale, has received on the average upwards of £500 per annum as dues) is in Ventongimps, as are also the mines formerly known as Great South Chiverton, Wentworth Consols, and part of Chiverton Moor.

LOT 4.—ONE-SIXTH of certain MINERALS in the Manor of Goonearle, in St. Agnes, Cornwall. The setts now or formerly known as North Treskerby, Wheal Rose, East Downs, Wheal Briton, and others are situate in Goonearle.

LOT 5 includes portions of the MINERALS in Chilly and Chytodden, Trevaunance, Bolster, Trewartha, and Towan, in St. Agnes. The setts now or formerly known as St. Agnes Consols, Wheal Charlotte, Wheal Towan, &c., are either wholly or in part within the above estates.

For further particulars, application should be made to Messrs. OLVER and SONS, Auctioneers and Land Valuers, Falmouth; or to Messrs. STONE, KING, and KING, Solicitors, Bath; Messrs. PETGRAVE and HODGKINSON, Solicitors, Bath; Mr. KILVERT BARTRUM, Solicitor, Bath; or at the offices of
S. T. G. DOWNING, Solicitor, Redruth.

Dated November 22nd, 1875.

FFOY COLLIERY.

TO BE SOLD, BY PUBLIC AUCTION, by Order of the Mortgagees, by MR. THOMAS HAND, at the Stepney Arms Hotel, Llanelly, in the county of Carmarthen, in One Lot, on Thursday, January 27th, 1876, at Three o'clock in the afternoon, ALL that LEASEHOLD PROPERTY known by the name of

THE FFOY COLLIERY,

Consisting of a SLANT, with air shafts, underground openings, fitted with pumping and winding ENGINES, gearing, and necessary machinery, estimated to be capable of yielding from 100 to 300 tons of coal per day. Together with certain Branch Railways connecting the colliery with the existing lines in the Gwendraeth Valley. The distance from the colliery to the shipping place and to the Great Western Railway at Burry Port is about eight miles. The coal produced is that known as anthracite, and of excellent quality.

The above property is held under three leases at sleeping rents, the maximum of the aggregate of which amounts to £480 per annum. The royalty on coal and culm is 8d. per ton, 4d. per ton on fire-clay as to a part, and 6d. per ton as to the other part, and 6d. per ton for the ironstone comprised in two of the said leases.

The whole of the above property is situate in the hamlet of Glyn, in the parish of Llanelly, in the county of Carmarthen.

Particulars and conditions of sale may be obtained gratis of the Auctioneer, Hall-street, Llanelly; of WILLIAM ROSSER, Esq., Mining Engineer, Greenfield House, Llanelly; of Messrs. SPEECHLY and Co., Solicitors, 1, New Inn, Strand, London, W.C.; of Messrs. SMITH and PAUL, Solicitors, Truro, Cornwall; and of ROBERT JOHNSON, Esq., Solicitor, Hall-street, Llanelly.

SHARES IN A CELEBRATED MINING PROPERTY IN CHILI,

YIELDING LARGE PROFITS, FOR SALE.

TO BE SOLD, BY AUCTION, at the Mart, Tokenhouse-yard, in the City of London, on Tuesday, the 23rd day of May, 1876, at Two o'clock precisely, by Messrs. DRIVER, in One or more Lots,

THREE SHARES (in Chili designated Barras) in the CARRIZALILLO MINING COMPANY. The company is divided into 24 shares only.

The CARRIZALILLO COMPANY own the celebrated DESCUBRIDORA MINE, and the three adjoining setts of SAN JUAN, CANCHAS, and SAN FRANCISCO, which are all worked under one administration, and are situate about thirty-three miles from the Port of Pan de Azucar, from whence there is a good road.

The DESCUBRIDORA MINE has been working since 1859, and has yielded large profits. There are two steam-engines at work, one of 20-horse power and one of 8-horse power, for drawing, and there is also a newly-erected powerful engine, with Blake's crusher attached; by the use of the latter the company is enabled to dress and return the large accumulation of low-produce ore, which will now give a considerable profit. The mine is in thorough working order, and well stocked with materials, rails, jiggers, crushers, &c.

The adjoining setts of SAN JUAN, CANCHAS, and SAN FRANCISCO were acquired for the purpose of securing the ground around the Descubridora Mine, and they have since been worked on a limited scale. There is also a shop, which supplies the workpeople, and also horses, carts, and mules.

Also the VEGA WASHING AND JIGGING ESTABLISHMENT, with yards, houses, shop, and stores, about nine miles from Descubridora (a tramroad is being laid down from the mine, which will greatly lessen the costs of carriage to the Vega). There are also dwelling-houses, bake-house, yards, store-rooms, ore-floors, and mole at Pan-de-Azucar, with convenient launches for use in loading ships with the ore; and there is also belonging to the company a quinchique establishment, a watering place, situate about eleven miles from Pan-de-Azucar, on the road to Descubridora, with dwelling-house, shop, store, mule yard, water carts, mules, and harness; and in Chanaral Port a dwelling-house of eight rooms, and spacious balcony and store below, with good counting house.

The company also have at Chanaral other houses and sites, and also a complete condensing apparatus, with four boilers, &c.

Two-thirds of Descubridora, San Juan, Canchas, and San Francisco, with some other property of comparatively small value, were sold in 1872 for the aggregate sum of £90,000, and since then profits have been divided much more than sufficient to repay the purchase-money, and there is every prospect of Descubridora continuing to give large profits for a considerable time.

Printed conditions of sale will be shortly ready, and further particulars can be obtained in Chili from ROBERT PEEBLES, Esq., Chanaral, Chili; and in England from Messrs. DRIVER, the Auctioneers, Whitehall, London; or of
S. T. G. DOWNING, Solicitor, Redruth, Cornwall.

THE HENDON SPELTER WORKS.

TO CAPITALISTS, PROMOTERS OF PUBLIC COMPANIES, & OTHERS.

FOR SALE, in consequence of the Death of the late Senior Partner, John Candlish, M.P., the SPELTER WORKS, situate at Hendon, in the borough of Sunderland, in the county of Durham, carried on under the style of "THE HENDON SPELTER COMPANY."

The works are situated within one mile of the well-known docks of the port of Sunderland, and adjoining the Hartlepool Branch of the North Eastern Railway, with which they are connected by high and low level sidings, and thereby placed in communication with all parts of the United Kingdom. Their position, within easy distance of both the ports of Newcastle and Sunderland, is very advantageous for the cheap importation of raw material, as also the forwarding of the manufactured article either by land or sea.

The ground on which the works are built can be either bought out or bought on a yearly perpetual ground rent, and any quantity under 20 acres can be included in the sale.

Being situated in the midst of the Durham Coal Field fuel of the best description can be obtained at a cost below almost any other part of the United Kingdom.

There are 19 workmen's cottages, which can be bought with the works.

The works contain 24 zinc furnaces, capable of producing 70 tons of metal a week, as also calciners, roofoffs, machinery, blacksmiths' and joiners' shops, &c., of sufficient capacity for a much larger number. The works can, therefore, be doubled at a comparatively small cost.

The quality of the metal made at these works is well known, and it, therefore commands a ready sale at the highest prices.

Attached to the high level sidings are large depôts for coal, ore, &c.

The goodwill would, of course, go with the works, and they will be sold subject to all stock being taken at a fair market value.

The purchaser can also have the option of buying the CALCINING WORKS and VALUABLE MINES in SPAIN, thus allowing of the economical and regular supply of the raw material, and saving the mineowners' and merchants' profits.

As the ore from the South of Spain generally comes as ballast for ships laden with esparto, it has been brought for this company at an average cost of 7s. per ton, sometimes as low as 4s. 6d.

Further particulars can be had on application to the company.

CHINA CLAY AND TIN, COPPER, AND IRON ORES IN CORNWALL.

THE LESSEE'S INTEREST in certain VALUABLE CHINA CLAY AND TIN WORKS, in full operation, and also in certain CHINA CLAY AND TIN, COPPER, AND IRON ORES SETTS in CORNWALL TO BE DISPOSED OF.

Full particulars can be obtained on application to Mr. S. N. SCOTT, China Clay Merchant, St. Austell.

MINERALS.

COAL FOR SALE, AND LEASE, BY PRIVATE TREATY, in close proximity to the town of NOTTINGHAM, from which a large READY MONEY TRADE may be expected. Principals or their authorised agents only treated with.

Apply, by letter only in the first instance, to Mr. G. H. WRIGHT, Mining Engineer, 22, Low Pavement, Nottingham.

TO CAPITALISTS OR PROMOTERS DESIRING TO MAKE MONEY.

TO BE SOLD, a COLLIERY ROYALTY in NORTH WALES, close to rail or shipping port; several shafts partially sunk; coal fully proved of FOUR SEAMS of good HOUSE and STEAM COALS, in an area of upwards of 400 acres of surface. It adjoins the West Mostyn Coal Field, just successfully launched, where under seams (including Cannel) have been proved in addition to the above; so that eminent engineers state that the available coal in this royalty may be 88 feet thick.

Present holder will arrange to sell the entire to an individual or company for what it has cost him, dividing all profit made above, which, even in a normal state of the coal trade, must be large. Certain and safe surveys by eminent Staffordshire and Welsh engineers have already been made.

Address, "Nil Desperandum," care of Mr. Watson, 15, Fenwick-street, Liverpool

TO MANUFACTURERS AND CAPITALISTS.

EXTENSIVE PREMISES ON FIVE FLOORS TO BE LET OR SOLD, with steam power, centrally situate at LLANELLY, in SOUTH WALES, in the midst of its coal and manufacturing district, possessing easy communication with France by means of a good port, and access by railway to all parts of the kingdom. The premises have been used, and are still fitted with machinery, as a flour mill, malthouse, and corn stores; but are suitable for and easily adaptable at a small outlay to other manufacturing purposes.

The buildings have been well and strongly erected, and are in good condition. They may be taken with or without the machinery.

Apply, Mr. A. SCOTT LAWSON, Solicitor, 39, Lombard-street, London, E.C.

IMPORTANT TO MINE, COLLIERY, AND QUARRY PROPRIETORS.

ON SALE, a good STEAM ENGINE, of about 200-horse power, with Cornish valves and hand gear; cylinder, 4 ft. 10 in.; stroke, 9 ft.; length of beam, 32 ft., and 5 ft. 6 in. deep; with pedestals, bed plate, &c., &c. Made at Penryn Foundry, 1829; No. 52.

It is situated within half a mile of a railway station, and also at a convenient place to be sent for shipment. If not sold within a fortnight, it will be taken down.

WILL BE SOLD CHEAP.

Apply to Messrs. LEWIS and ROBERTS, Snowdon-street, Portmadoc, North Wales.

December 21, 1875.

FOR SALE:—
ONE 60 ft. OVERSHOT WATER WHEEL, 2 ft. 6 in. breast, iron rings, centre pieces, shaft, wooden arms, buckets, backing.
ONE 12 ft. by 2 ft. 6 in. ditto ditto
ONE 12 head SET OF STAMPS, complete.
ONE LARGE PUMP CRANK, with four pin holes.
ONE 13 ft. IRON BOB.
EIGHT LARGE GEAR WHEELS.
ONE ORE CRUSHER, complete.
A lot of PUMP RODS, JOINTS, TRAM WAGONS, PUMPS, &c., &c.

The whole of the above has been little used; is in good condition: will be sold cheap, together or separate.

PORTABLE ENGINES, PUMPS, SAW TABLES, always on sale or hire.

Apply to—

POLYBLANK AND CO.,
ENGINEERS AND BOILER MAKERS,
NEWTON ABBOT AND DARTMOUTH.

SINKING, WINDING COAL, &c.

FOR SALE, a 14-horse power PORTABLE STEAM ENGINE, with two cylinders, link motion reversing gear, drum 5 ft. diameter, with gearing to wind and pump, ready for delivery.

Also, a 35-horse power PORTABLE ENGINE, a 9-horse and an 18-horse power VERTICAL, all with link motion reversing gear—suitable for mining operations.

BARROWS AND STEWART ENGINEERS, BANBURY.

CONDENSING AND NON-CONDENSING HORIZONTAL STEAM ENGINES, of the highest class, at low prices.

PUMPING AND WINDING ENGINES. First-class references.

ENGINEERS'S TOOLS of all kinds, unrivalled for arrangement and general usefulness, at low prices. Inspection invited.

POLLOCK AND MACNAB,
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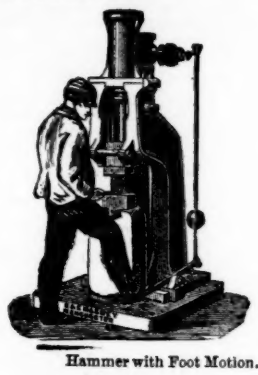
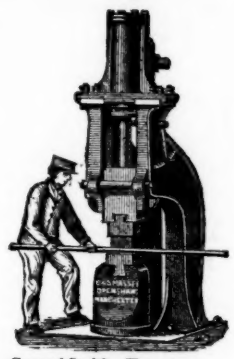
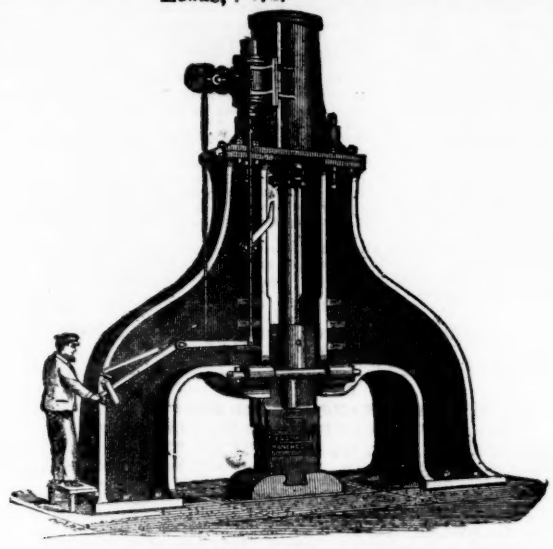


Hammer with Foot Motion.



General Smithy Hammer.



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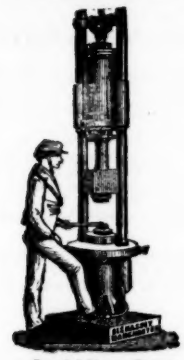

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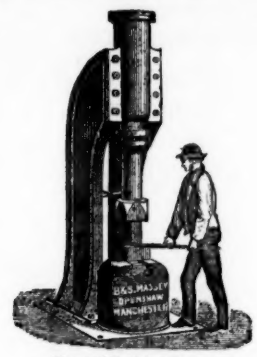

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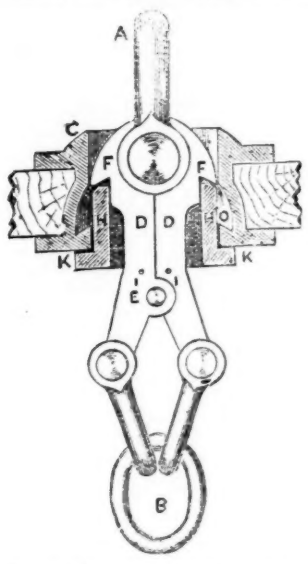

SIX LIVES SAVED.

Walker's Hook, at Tockett's sinking, has saved six men's lives On the 6th instant, the kibble was overwound, and but for the hook would have fallen down the pit, where six men were working, 120 ft. below, all of whom would probably have been killed. Thanks, however, to Mr. Walker's invention, the rope alone passed harmlessly over, the kibble remained suspended, and in half-an-hour everything was working as if nothing had occurred.—From the *Northern Echo* August 20, 1874.

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Horse-power (actual).	Engine at the Works.	Extra for Governor.	Extra for Feed-Pump.	Piston speed in ft. per min.	Mean press. per sq. in. on piston.	Tubular Boiler.	Extra for Mountings.
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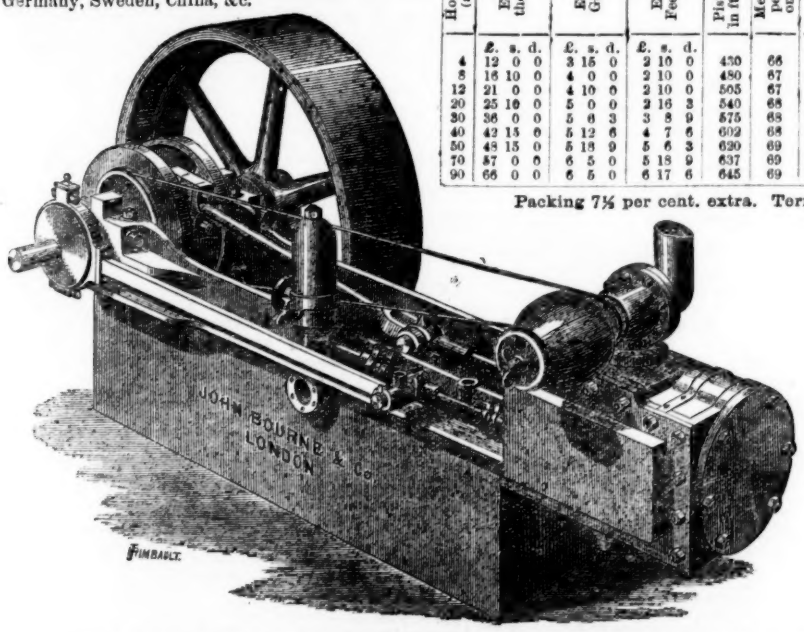
4	12 0 0	3 15 0	2 10 0	430	66	27 17 0	10 10 0
8	16 10 0	4 0 0	2 10 0	480	67	35 8 6	10 18 6
12	21 0 0	4 10 0	2 10 0	505	67	40 2 0	11 18 0
20	25 10 0	5 0 0	2 16 3	540	68	47 18 0	13 2 0
30	36 0 0	5 6 3	3 8 9	575	68	57 19 4	15 13 0
40	42 15 6	5 12 6	4 7 6	602	68	70 9 0	17 11 0
50	48 15 0	5 18 9	5 6 3	620	69	84 4 0	18 2 9
70	57 0 6	6 5 0	5 18 9	637	69	Two boilers.	
90	66 0 0	6 5 0	6 17 6	645	69	Two boilers.	

Packing 7½ per cent. extra. Terms, Cash.



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Peninsular and Oriental Steam Navigation Company, Southampton, March, 1875.

I have carefully examined your Patented High-Pressure High-Speed Steam-Engine. Knowing as I do how many improvements in the steam-engine you have inaugurated during the last forty years, which have been silently adopted and are now in general use, it does not suprise me that you have again made a happy hit, and brought out an engine which exactly meets one of the most pressing wants of the day. The speed and pressure of your engine are greater than is usual in other engines; but with a due proportion iof rubbing surface, nothing in the way of undue wear is to be apprehended from the speed, and boilers and engines can easily be made strong enough to bear almost any pressure with safety. The indicator diagrams are very good, and they show that though the engine is small it generates the power. Your invention of balancing the momentum of the moving parts, already adopted in the best engines for steam navigation, enables engines to be run at almost any speed without inconvenience, if well constructed in other respects; and in your present engine you have embodied the best engineering knowledge of the age, with the addition of several features of originality and importance. While, then, the disadvantages of your engine are *nil*, its advantages are great and manifest. A high pressure and high speed render possible large expansion, with a great saving both in coal and water. Then the motion is more equable than in common engines, and the weight of machinery and the space occupied by it are small. The most remarkable feature, however, is the wonderful reduction of first cost which your system permits; and people will now have engines who before thought them quite beyond their reach. Their production, as I understand, you have reduced to a manufacture. To sum up the whole in a few words, you have, in my opinion, brought out a machine long wanted, and likely to produce a revolution in that class of engine, as it can be adapted for almost any purpose.

ANDREW LAMB.

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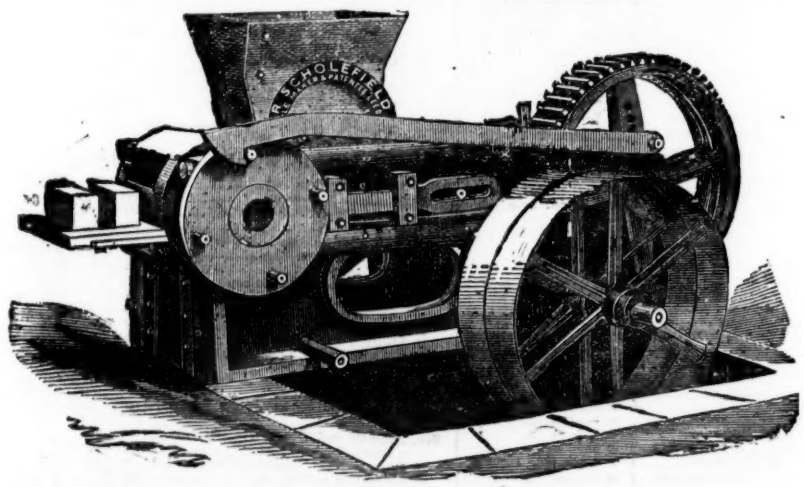
PATENTED 1873.



R. S. begs to call the attention of all Colliery Owners in particular to his PATENT SEMI-DRY BRICK MACHINE, and the economical method of making bricks by his patent machinery from the refuse that is taken from the pits during the process of coal-getting, which, instead of storing at the pit's mouth (and making acres of valuable land useless), is at once made into bricks, at a very small cost, by R. S.'s Patent Brick-making Machinery. If the material is got from the pit hill, the following is about the cost of production, and the hands required to make 10,000 pressed bricks per day:—

2 men digging, each 4s. per day	£0 8 0
1 man grinding, 4s. 6d. per day	0 4 6
1 boy taking off bricks from machine, and placing them in barrow ready for the kiln, 2s. per day	0 2 0
1 boy greasing, 1s. 6d. per day	0 1 6
1 engine-man, 5s. per day	0 5 0
1 man wheeling bricks from machine to kiln, 4s. per day	0 4 0
Total cost of making 10,000 pressed bricks	£1 5 0, or 2s. 6d. per 1000.

(SETTING AND BURNING SAME PRICE AS HAND-MADE BRICKS.)

N.B.—Where the material can be used as it comes from the pit, the cost will be reduced in digging.

As the above Machinery is particularly adapted for the using up of shale, bind, &c., it will be to the advantage of all Colliery Owners to adopt the use of the said Brick-making Machinery.

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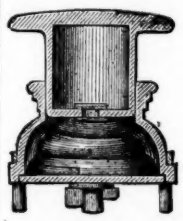

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MINING PROSPECTUSES AND ANNOUNCEMENTS OF PUBLIC COMPANIES should be inserted in the BARNSTAPLE TIMES, published every Tuesday, and in the DEVON POST, published every Saturday, as these papers circulate largely throughout Devon and Cornwall, where many thousands of investors reside. Legal and Public Companies' advertisements, 6d. a line each insertion; Trade and Auctions, 4d. a line; Wanteds, &c., 20 words, 1s.

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THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Shares	Mines.	Paid.	Last Pr.	Clos. Pr.	Total divs.	Per share.	Last paid
1500	Alderley Edge, *c*, Cheshire*	10 0 0	—		12 6 8	0 5 0	Jan. 1875
11000	Balmynheer, *t*, Wendron (4000 to is.)	1 0 0	—		0 2 0	0 2 0	Nov. 1875
30000	Bampfylde, *c*, *s*, *ms*., Devon*	1 0 0	1⅝	1⅝ 1⅝	0 2 0	0 2 0	June 1873
200	Betallack, *t*, *c*, St. Just§	116 5 0	50	40 50	619 15 0	5 0 0	Aug. 1872
10000	Bronfloyd,*† *s-l*, Cardigan	1 7 6	—		2 2 0	0 0 6	Jan. 1872
4000	Brockwood, *c*, Buckfastleigh	1 16 0	—		3 12 6	0 2 0	Nov. 1875
3248	Cargoll, *s-l*, Newlyn§	5 13 0	¾	⅛ ¾	4 16 3	0 12 6	Oct. 1872
6400	Cashwell, *l*, Cumberland*	2 10 0	—		1 9 6	0 2 0	Aug. 1875
1000	Carn Brea, *c*, *t*, Illogan†	35 0 0	40	37 39	308 0 0	1 0 0	Feb. 1874
6000	Cath. & Jane, *l*.* Penrhyndendraeth	5 0 0	—		0 7 6	0 7 6	June 1873
2450	Cook's Kitchen, *t*, Illogan†	21 9 9	6	5¼ 6	11 17 0	0 7 6	Jan. 1873
10240	Devon Gt. Consols, *c*, Tavistock*§	1 0 0	4½	4 4¼	116 10 0	0 12 0	May 1872
4296	Dolcoath, *c*, *t*, Camborne	10 14 10	42½	40 42	107 16 8	0 10 0	Nov. 1875
6500	Drake Walls, *t*, *c*, Calstock	6 0 0	1½	1 1¼	0 2 0	0 2 0	July 1874
10000	East Balleswidden, *t*, Sancreed*	1 0 0	—		0 2 11	0 0 5	Feb. 1874
6144	East Caradon, *c*, St. Cleer†	2 14 6	1⅞	1½ 1¾	14 19 0	0 2 0	Oct. 1872
300	East Darren, *l*, Cardiganshire	32 0 0	30	25 30	231 10 0	1 0 0	Nov. 1875
6400	East Pool, *t*, *c*, Illogan	0 9 9	14⅜	13½ 14	14 2 9	0 4 6	Nov. 1875
1906	East Wheal Lovell, *t*, Wendron*†	5 19 0	6	3 4	20 7 6	0 7 6	Oct. 1874
2800	Foxdale, *l*, Isle of Man*†	25 0 0	—		81 15 0	0 10 0	Sept. 1875
40000	Glasgow Cara.., *c** [30,000 £1 p., 10,000 15*s*. p.]		1⅝	1¾ 1¾	0 8 4	0 1 0	Sept. 1875
16000	Great Laxey, *l*, Isle of Man*	4 0 0	16½	15½ 16½	18 13 0	0 10 0	Oct. 1875
28000	Great West Van, *t*, Cardigan*	2 0 0	¾	½ ¾	0 2 0	0 1 0	Aug. 1874
8908	Great Wheal Vor, *t*, *c*, Helston†§	41 2 6	3½	3 3¼	15 19 6	0 2 6	June 1872
6400	Green Hurth, *l*, Durham*	0 6 0	4	3 4	1 12 0	0 4 0	Oct. 1874
20000	Grogwinion, *t*, Cardigan*	2 0 0	4	3½ 4	0 3 0	0 1 0	Aug. 1875
9850	Gunnislake (Clitters), *t*, *c*	5 5 0	1¾	1¼ 1¾	0 8 9	0 1 6	Oct. 1875
1024	Herodsfoot, *l*, near Liskeard†	8 10 0	3¾	4 4¼	62 5 0	0 15 0	Oct. 1872
18000	Hingston Down, *c*, Calstock*† (£1 sh.)	2 5 0	1	⅞ 1⅛	4 4 0	0 1 0	Nov. 1875
25000	Killaloe, *si*, Tipperary	1 0 0	—		0 3 11½	0 0 6	Mar. 1873
400	Lisburne, *l*, Cardiganshire	18 15 0	55	50 55	570 10 0	1 0 0	Nov. 1875
3120	Lovell, *t*, Wendron	0 10 0	—		0 17 6	0 1 6	Jan. 1874
11000	Melindur Valley, *l*, Cardigan*	3 0 0	3	2½ 3	0 7 2	0 3 7	Jan. 1875
9000	Minera Mining Co., *l*, Wrexham*..	5 0 0	6	5 6	64 4 2	0 3 0	Nov. 1875
20000	Mining Co. of Ireland, *ci*, *c*, *l**	7 0 0	—		0 8 0	0 3 6	July 1872
12000	North Hendre, *l*, Wales	2 10 0	3½	5 5½	1 2 6	0 2 6	Nov. 1875
2000	North Levant, *t*, *c*, St. Just§	12 2 0	2	1½ 2	4 13 0	0 12 0	Sept. 1873
27855	Old Treburgett,* *s-l*, ordinary shares	1 0 0	—		0 0 9	0 0 9	Feb. 1874
9258	Old Treburgett,* *s-l* (10 per ct. pref.)	0 10 0	⅜	⅛ ¼	0 1 4½	0 0 6	July 1874
†830	Pedn-an-drea, *t*, Redruth§	9 17 0	—		0 5 0	0 5 0	Nov. 1871
8000	Penhalls, *t*, St. Agnes	3 *0 0	2	1½ 2	3 13 6	0 2 0	July 1875
45793	Pensnithal, *t*, *c*, Gwennap	2 0 0	½	⅜ ½	0 2 8	0 0 8	Nov. 1875
9000	Phœnix, *t*, *c*, Linkinhorne§	4 13 4	—		39 19 10	0 4 0	Nov. 1872
1779	Polberro, *t*, St. Agnes	15 0 0	—		1 12 6	0 5 0	Mar. 1872
18000	Prince Patrick,* *s-l*, Holywell	1 0 0	3½	3 3½	0 12 9	0 1 3	Oct. 1875
1120	Providence, *t*, Lelant†§	16 16 7	2¾	2 2¾	104 12 6	0 10 0	Sept. 1872
12000	Roman Gravels, *l*, Salop*	7 10 0	12½	12 12½	5 7 6	0 8 6	Sept. 1875
512	South Caradon, *c*, St. Cleer	1 5 0	140	130 140	724 0 0	0 0 0	Nov. 1875
8000	South Carn Brea, *c*, *t*, Illogan§	2 17 0	1⅜	1⅜ 1¾	0 10 0	0 2 6	July 1872
6123	South Condurrow, *t*,*c*, Camborne†...	6 5 6	5½	5 5½	1 12 6	0 0 5	Oct. 1875
4000	South Darren, *l*, Cardigan*	3 6 6	—		1 1 6	0 1 6	Nov. 1870
10000	So. Pr. Patrick,* *s-l*.(8000 sh. issued)	1 0 0	—		0 6 0	0 2 0	Apr. 1875
12000	Tankerville, *l*, Salop*	6 0 0	11¾	10½ 11	4 3 0	0 5 0	Nov. 1875
6000	Tincroft, *c*, *t*, Pool, Illogan†	9 0 0	21	19 21	48 13 6	0 5 0	Nov. 1875
4000	Trumpet Consols, *t*, Helston§	7 10 0	⅜	⅛ ⅜	9 11 0	0 10 0	Nov. 1872
12000	Tyllwyd,* *s-l*, Cardigan	1 0 0	1⅛	1 1⅛	0 1 0	0 1 0	Nov. 1875
16000	Van, *l*, Llanidloes*	4 5 0	30	29 31	15 18 6	0 14 0	Sept. 1875
8000	W. Chiverton, *l*, Perranzabuloe†	12 10 0	18	16 17	53 10 0	0 12 6	Dec. 1875
512	West Tolgus, *c*, Redruth	95 10 0	60	60 65	11 0 0	1 5 0	Dec. 1875
2048	West Wheal Frances, *t*, Illogan	27 8 9	9	8 8½	3 12 6	0 5 0	Oct. 1872
512	Wheal Basset, *c*, Illogan†	7 2 6	—		638 10 0	1 10 0	Aug. 1872
2048	Wheal Jane, *t*, Kea	2 13 10	3½	3 3½	11 5 0	0 5 0	July 1875
4296	Wheal Kitty, *t*, St. Agnes	5 4 6	3	3 3½	11 19 6	0 2 6	Dec. 1874
80	Wheal Owles, *t*, St. Just§	86 5 0	140	130 140	522 10 0	4 0 0	Aug. 1872
6000	Wheal Prussia, *t*, Redruth	2 0 0	3	—	0 3 0	0 2 0	Dec. 1875
12000	Wheal Russell, *c*, Tavistock	1 0 0	—		0 3 3	0 0 6	Nov. 1874
25000	Wicklow *c*, *sui*, *t*, Wicklow	2 10 0	—		52 9 0	0 2 6	Mar. 1872
10000	Wye Valley, *l*, Montgomery*	3 0 0	5½	5 5½	0 6 0	0 3 0	Aug. 1875

FOREIGN DIVIDEND MINES.

35500	Alamillos, *l*, Spain*†	2 0 0	2	1¾ 2	1 9 9	0 2 0	Sept. 1875
30000	Almada and Tirito Consol., *s*†	1 0 0	¾	½ ¾	0 5 3	0 1 0	Mar. 1875
20000	Australian, *c*, South Australia†	7 7 6	2½	1¾ 2¼	0 15 6	0 2 0	July 1875
10000	Battle Mountain,* *c*, (6240 part pd.)	5 0 0	1½	1 1¾	0 10 0	0 10 0	Nov. 1872
15000	Birdseye Creek, *g*, California*	4 0 0	2¾	1⅞ 2⅛	0 14 0	0 2 6	June 1874
6000	Bensberg, *l*, Germany*	10 0 0	3½	2½ 3	0 17 4	0 8 0	July 1873
1,320	Burra Burra,* *c*, So. Australia	5 0 0	—		56 0 0	0 10 0	Oct. 1872
20000	Cape Copper Mining,*† So. Africa..	7 0 0	38	37 38	22 15 0	1 0 0	Dec. 1875
40000	Cedar Creek, *g*, California*	5 0 0	⅞	¾ ⅞	0 5 0	0 2 6	June 1873
80000	Central American Association*†	0 16 6	—		0 6 0	0 1 0	July 1869
15000	Chicago, *s*, Utah*	10 0 0	—		1 12 0	0 4 0	May 1875
21000	Colorado Terrible, *s-l*, Colorado*†	5 0 0	2¼	1¾ 2¼	0 13 6	0 4 0	Jan. 1875
100000	Den Pedro North del Rey*†	0 16 0	½	¼ ¼	2 5 9	0 2 0	Mar. 1872
23500	Eberhardt and Aurora, *s*, Nevada*†	10 0 0	8½	8½ 8¾	1 0 0	0 1 0	July 1871
5,000	Emma,* *g*, *s*, Utah	20 0 0	1¾	1 1¾	3 12 0	0 6 0	Dec. 1872
70000	English and Australian, *ci* S. Aust.	2 10 0	2⅝	2½ 2¾	2 10 9	0 2 6	Mar. 1875
15000	Ferguson, *g*, California*	2 0 0	—		0 3 0	0 3 0	April 1872
30000	Flagstaff, *s*, Utah*	10 0 0	1½	⅞ 1⅛	4 2 0	0 5 0	July 1875
25000	Fortuna, *l*, Spain*†	2 0 0	5½	5 5½	5 0 10	0 6 6	Sept. 1875
30000	Gold Run, *hyd.*	1 0 0	⅞	¾ ⅞	0 2 4	0 0 4	Oct. 1872
68000	Kapunda Mining Co. Australia†	1 3 0	¾	½ ¾	0 2 4	0 0 6	June 1873
20000	Last Chance, *s*,* Utah	5 0 0	⅞	¾ ⅞	0 14 0	0 2 0	July 1873
15000	Linares, *l*, Spain*†	3 0 0	4½	3¾ 4¼	15 4 2	0 5 0	Sept. 1875
65000	London and California, *g**†	2 0 0	½	⅜ ⅜	0 1 0	0 1 0	July 1875
7837	Lusitanian, Portugal.*† (£5 shares).	3 10 0	1	¾ 1	1 11 6	0 1 6	Mar. 1873
5000	Mammoth Copperopolis of Utah, *c*, *s*	10 0 0	—		0 5 0	0 5 0	Dec. 1872
8000	Mountain Chief, *s*, Utah*	10 0 0	—		0 4 0	0 4 0	Jan. 1873
18000	Prussian Mining & Ironworks, *ci*, *s*.	30 0 0	—		6 0 0	0 0 3	July 1873
10000	Pontgibaud, *s-l*, France†	20 0 0	20	18 20	20 14 2	1 3 2	Nov. 1875
100000	Port Phillip, *g*, Clunes*†	1 0 0	⅜	⅛ ⅜	1 8 0	0 1 0	Jan. 1872
54000	Richmond Consols, *s*, Nevada*†	5 0 0	8	7 7¾	2 14 0	0 7 6	May 1875
120000	Scottish Australian Mining Co.*†	1 0 0	1⅝	1⅜ 1⅝	12½ per cent.		May 1875
112500	Sierra Buttes, *g*, California*†	2 0 0	1⅛	1 1⅛	1 12 0	0 2 0	Oct. 1875
40000	South Aurora, *s*, Nevada*	5 0 0	⅜	⅛ ½	0 14 2	0 2 0	Nov. 1873
£253000	St. John del Rey*† (£5 stock and multiples dealt in)		400	420	.. 25 p. ct. for ½ year		Dec. 1875
15000	Sweetland Creek, *g*, California*†	4 0 0	3	2¾ 3⅛	3 4 0	0 2 0	Nov. 1875
20000	Tolima, *g*, *s** (6000 sh. are £5 f. pd.)	4 10 0	3¼	3 3¾	0 11 6	0 6 6	May 1874
15000	Western Andes, *s*,* New Granada	5 0 0	5¾	5 5¾	2 13 0	0 8 0	Sept. 1875

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Clos. Pr.	Last Call.
20000	Anglo-Australian, *g*, Victoria*	2 10 0	—		Sept. 1872
12000	Argentine, *g*, Argentine Republic	5 0 0	7½	6½ 7	Fully pd.
10000	Australian Central, *g** (also 6000 deferred shares)	1 0 0	1¾	1 1¾	Fully pd.
3000	Bellavista, *s*, Peru* (£10 shares)	10 0 0	—		Fully pd.
30000	Blue Tent, *hyd.*, California	5 0 0	4½	4 4½	Fully pd.
50000	Braganza, *g*, Brazil*†	0 15 0	—		Oct. 1870
12000	Camp Floyd, *s*, Utah*	10 0 9	—		Fully pd.
35000	Cesena Sulphur Company, Romanga, Italy*	10 0 0	—		Fully pd.
50152	Chontales, *g*, *s*, Nicaragua*† (and 12,542 of £1 10*s*.)	2 0 0	—		Fully pd.
6000	Clifton, *s*, Colorado*	5 0 0	⅝	⅝ ⅝	Fully pd.
10000	Crescent, *g*, Plumas County, California*	10 0 0	—		Feb. 1872
36000	Excelsior Hydraulic Gold Washing Co., California*	6 0 0	—		Fully pd.
100000	Exchequer, *g*, *s*, California*†	1 0 0	—		Dec. 1871
35000	Frontino and Bolivia, *g*, New Granada*†	2 0 0	1	⅞ 1	Fully pd.
40000	Holcombe Valley, *g*,* Californis	1 0 0	1¾	1½ 1¾	Fully pd.
6000	Hornachos,* *s-l*, (£10 shares) Spain	1 0 0	—		July 1873
20000	Imperial Brazilian Collieries, Brazil*	10 0 0	—		Jan. 1874
30000	Independence, *g*, California*	5 0 0	—		Fully pd.
100000	I. X. L., *g*, *s*, California*	1 0 0	—		Fully pd.
50000	Javali, *g*, Nicaragua*	2 0 0	—		Fully pd.
12000	Lanestosa,* *l*, *s*, Viscaya, Spain (£2 shares)	1 12 6	¾	½ ¾	Fully pd.
75000	Malabar, *g*, Colombia* (65000 issued)	1 0 0	—		Sept. 1874
40000	Malpaso, *g*, Colombia* (10000 pref. shares, fully paid)	1 0 0	—		Fully pd.
12000	Menzenberg, *c*, Honnef, Germany*	5 5 0	—		Fully pd.
6000	Monte Loreto, *g*, *c*, Italy*	5 0 0	—		Fully pd.
15000	New Pacific, *g*, *s*, Nevada*	0 10 0	¼	⅛ ¼	Dec. 1874
66000	New Quebrada, *c*, Venezuela*	5 0 0	4¼	3¾ 4¼	Fully pd.
80000	New Rosario, *s*, Mexico*	1 0 0	¼	⅛ ¼	Fully pd.
20000	New Zealand Kapanga, *g*, Coromandel*	5 0 0	1¾	¾ 1¼	Fully pd.
2,000	North American, *g**	4 0 0	—		Fully pd.
3000	Oregon,*§, Oregon, U.S. (preference shares)	4 0 0	4¼	4 4¼	Sept. 1875
8,000	Panuicillo, *c*, Chili*† (£80000 debentures)	4 0 0	1½	1 1½	Fully pd.
8,000	Pestarena United, *g*, Italy*†	3 0 0	⅛	⅛ ⅛	Fully pd.
8,000	Rica, *g*, Colombia* (40000 issued)	1 0 0	⅛	⅛ ⅛	Fully pd.
22,000	Rio Tinto,* *s*, Huelva, Spain	10 0 0	7	6 7	Fully pd.
10,000	Rosas Grande, *g*, Brazil*† (£1 shares)	0 19 0	—		Fully pd.
3,250	Ruby Consolidated, *s*, Nevada*	10 0 0	—		July 1872.
8,000	Russia, *c*, Orenburg and Uta*†	10 0 0	—		Fully pd.
2,000	San Pedro, *c*, Chili*	2 0 0	3¼	2¼ 3¼	Fully pd.
4,000	Santa Barbara,* *g*, Brazil	2 0 0	3½	2 2½	Fully pd.
1,800	Silver Plume, *s*, Colorado*	1 0 0	1⅜	1 1⅜	Mar. 1872
3,500	Snowdrift, *s*, Colorado*	0 9 6	—		Fully pd.
8,000	Tecoma, *s*, Utah*	2 0 0	—		Fully pd.
2,000	Thornhill Reef, *g*, Australia*	10 0 0	⅜	⅜ ½	Fully pd.
41174	United Mexican, *s*, Mexico*†‖	1 0 0	¼	⅛ ¼	Fully pd.
1,000	Utah, *g*, *s-l*, Utah*	28 12 8	¾	¾ ¾	May 1875
2,000	Victoria (London)*, *g*, Australia (25,000 sh. 16*s*. pd.)	5 0 0	⅜	⅛ ⅜	Fully pd.
75000	Yorke Peninsula, *c*, South Australia	1 0 0	—		Fully pd.
40000	Yorke Peninsula, *c*, South Australia Preference	1 0 0	½	⅜ ½	Fully pd.

§ Have made calls since last dividend was paid.

FOREIGN AND MISCELLANEOUS STOCKS, BONDS, LOANS, AND TRUSTS.

	Closing Prices.	
Argentine, 1868, 6 per cent.	89	91
Bolivia, 6 per cent.	21	23
Brazilian, 1865, 5 per cent.	97	98
Chilian, 1866, 7 per cent.	105	108
City of Providence, 5 p.c. coupon bonds	97	98
Egyptian, 1862, 7 per cent.	78	81
Do., 1868, 7 per cent.	77	78
Do., 7 per cent., V.M.L.	89	91
Do., 9 per cent. guar.	93	95
Do., 7 per cent., E.M.L.	71¾	72¼
Foreign and Col. Gov. Trust, 6 p. cent.	94	98
Do., 5 per cent., 2d issue	80	86
Do., 6 per cent., 2d issue	88	94
Do., 1872, 4th issue	88	94
Do., 1873, 5th issue	80	84
Peruvian, 1870, 6 per cent.	33½	34¼
Do. 1872, 6 per cent.	26	27
Russian, 5¼ per cent. L. Mort.	94	96
Spanish, Quicksilver Mort., 3 p. cent.	91	93
United States Mor., 6 per cent.	94½	95¼

NON-DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Clos. Pr.
25000	Aberdaunant, *l*, Llanidloes*	1 0 0	1⅜	1⅛ 1⅜
10000	Aberystwith,* *s-l*, Cardigan	5 0 0	—	
18000	Ambrose Lake, *t*, *c*, Liskeard	1 18 6	—	
12000	Assheton, *l*, Carnarvonshire*	5 0 0	1¼	¾ 1¼
50000	Ballycummisk,* *c*, Schull	2 0 0	—	
12000	Bedford United, *c*, Tavistock	1 17 6	1½	1 1½
28000	Belstone,* *c*, Devon (25,000 fully pd.)	1 0 0	2	1⅞ 2
15000	Blue Hills, *t*, *c*, St. Agnes	2 6 6	—	
25000	Bog, *l*, Shropshire*	2 0 0	⅜	⅛ ⅜
2000	Bowden Hill,* *ms*	1 0 0	¾	⅝ ¾
20000	Brynambor, *l*, Cardigan	1 0 0	—	
30000	Burrow& Butson,* *t*, *c*, *bl*, St. Agnes	1 0 0	—	
4828	Bwadrain, *s-l*, Cardigan* (£4 shares).	3 19 0	—	
4235	Bwlch Consols, *s-l*, Cardigan*‖ (£5 sh.)	4 19 6	—	
30000	Caldbeck Fells, *l*, Cumberland*	2 0 0	—	
5584	Carn Camborne, *c*, *t*, Camborne	5 3 6	¼	⅛ ¼
10000	Cathedral, *t*, *c*, Gwennap*	1 10 0	1⅛	1 1⅛
3000	Cefn Brwyno (lim. to £5)	5 0 0	—	
20000	Central Foxdale, *l*, Isle of Man*(£2 sh.)	1 0 0	—	
10000	Central Van,* *l*, *bl*, Llanidloes	5 0 0	—	
24000	Court Grange, *s l*, Cardiganshire	1 0 0	—	
15000	Cwm Nant Ddu,* *l*, Montgomery	1 0 0	—	
10000	Denbighshire Consolidated, *l**	3 0 0	3	2¼ 3
656	Ding Dong, *t*, Gulval	49 14 6	6	5 6
12000	Dolwen Consols, *l*, Cardigan*	1 0 0	—	
10000	Dubby Syke, *l*, Durham*	0 5 0	1	
10000	Duchy Great Consols, *c*, Calstock	5 0 0	—	
15000	Dylife,* *l*, Montgomeryshire	6 0 0	—	
512	East Basset, *c*, Redruth†‖	76 15 0	2½	2 2½
800	East Black Craig,* *l*., Scotland	25 0 0	—	
4000	East Chiverton, *l*, Perranzabuloe	6 10 0	1¾	1¾ 1¾
6000	East Grenville, *c*, Camborne	7 8 6	⅜	¼ ⅜
80000	E. Nant-y-mwyn,* *l*, Brecknockshire.	1 0 0	—	
15000	East Van, *l*, Llanidloes*	5 0 0	3	2¾ 3¼
20000	Elgar,* *s-l*, Cardiganshire	1 0 0	—	
12800	Florence and Tonkin United* *l*.	0 10 0	—	
5000	Frank Mills, *l*, Christow	4 16 0	⅜	¼ ⅜
8000	Fronvellan, *l*, Mont.* [4000 sh. fy. pd.]	1 0 0	—	
18000	Furze Hill, *t*, Tavis.*	1 0 0	—	
3950	Gawton, *c*, Tavistock	4 1 6	⅜	¼ ½
12500	Gilfach, *s-l*, Llangadock	2 0 0	—	
10000	Glan Severn, *s-l*, Flintshire	1 0 0	—	
15000	Gobbett, *t*, Dartmoor	1 0 0	—	
12000	Goginan, and Level Newydd, Card., *l*	2 10 0	—	
100000	Gold, *a*, Merionethshire	1 0 0	¼	⅛ ¼
7500	Gorsedd and Merllyn Cons., *l*, Flint	2 10 0	3	2 3
9500	Great Pant-y-Pydew, *l*, Holywell	2 0 0	—	
4096	Great Wh. Lovell, *t*, Wendron	3 14 0	—	
18000	Grosvenor, *l*, Holywell (£1 sh.)	0 7 0	—	
6400	Harmood,* *l*, Durham	0 15 0	1¼	¾ 1¼
6000	Keswick United, *l**	5 0 0	—	
6000	Killifreth, *t*, Chacewater	1 2 0	¾	⅝ ¾
25000	Kingston Consols, *s-l*, Cornwall	1 0 0	1	⅞ 1
12000	Ladywell,* *l*, Salop	2 10 0	2½	2 2½
2500	Levant, *c*, *t*, St. Just	9 1 6	—	
10000	Llanarmon, Denbigh	2 0 0	—	
64	Llandilo, *s-l*, *bl*, Flintshire	50 0 0	—	
14000	Llanidloes, *l*, Montgomery*	3 0 0	3	2½ 2¾
15000	Llanllivery Cons., *t*, *c*, *ars*, Llanllivery.	1 0 0	—	
25000	Llanrhaladr, *l*, Montgomery*(£2 sh.)	1 10 0	—	
30000	Llanrwst, *l*, Carnarvon	2 0 0	2½	2¼ 2½
17000	Llywernog, *l*, Cardiganshire	0 16 0	—	
9000	Marke Valley, *c*, Caradon*	5 0 6	3¾	3¼ 3¾
6000	Medlyn Moor, *t*, Wendron	1 4 10	1½	1 1½
8000	Mellanear, *c*, Hayle*	4 0 0	—	
13000	Monydd Gorddu, *l*, Cardigan*	5 0 0	6	5½ 6
2524	Nangiles, *t*, *c*, Kea	9 14 0	—	
4000	Nanty, *l*, Montgomeryshire*	1 0 0	—	
20000	Nanty Moch, *s l*, Llanbadarnfawr	1 0 0	—	
2000	Nant-y-Ricket,* *c*, *l*, Montgom.	5 0 0	—	
25000	Nant-y-Ronen, *s-l*, Cardigan*	1 0 0	—	
10000	New Beldon, *l*, Northumberland*	1 0 0	—	
12000	New Caroline, *c*, Perranuthnoe	1 0 0	—	
20000	New Consols, *c*, Tavistock*	3 0 0	1¾	1½ 1¾
8000	New Crickheath,* *l*, Shropshire	2 0 0	—	
8000	New Dolcoath, *t*, *c*, Camborne*	3 0 0	1½	1 1¾
16000	New Fowey Consols, *t*, St. Blazey*	3 0 0	2	1½ 2
2 00	New Hendra, *t*, Breage	2 9 0	1¾	1 1¾
6400	New Pembroke, *t*, *c*, Par Station	5 4 6	1	¾ 1
5000	New Rosewarne, *c*, Gwinear	5 7 0	⅜	⅛ ⅜
3200	New South Merllyn, *l*, Flint*	2 10 0	—	
512	North Busy, *c*, Chacewater	3 9 6	7	6 7
25000	North Laxey,* Isle of Man	2 0 0	⅜	⅛ ⅜
20000	North Prince Patrick,* *l*, Holywell	1 0 0	1¾	1 1¾
2000	North Wheal Towan, *t*, *c*, Illogan	1 19 6	—	
10000	North Pool,* *c* (Res. 2500, Deb. 5000 .)	2 0 0	¾	⅛ ¾
1000	North Rosewarne, *c*, Gwinear	6 12 6	—	
8000	North Treleigh Wood, *t*, Redruth*	1 0 0	1¼	1 1¼
5936	North Treskerby, *c*, St. Agnes	3 15 4	—	
6000	Old Talargoch, *l*, Flintshire*	2 0 0	—	
2500	Old Tincroft, *c*, *t*, Lelant*	4 0 0	4½	4¼ 4¾
16923	Parys Mountain,* *c*, Anglesea	3 0 0	⅝	½ ⅝
4000	Pateley Bridge, *l*, Yorkshire	5 0 0	5	4¾ 5¼
6000	Pennant, *l*, *bar*, North Wales*	5 0 0	5¼	5 5¼
12000	Pennerley, *l*, Shropshire*	2 0 0	1½	1⅜ 1½
12000	Plynlimmon, *l*, Llanidloes*	2 5 0	½	¼ ⅜
648	Polrose, *t*, Breage	21 0 0	—	
10000	Port Nigel,* *s-l*, Carnarvonshire	2 0 0	1¾	1½ 1⅝
2000	Prideaux Wood, *t*, Llanivery	5 0 0	—	
12800	Prince of Wales, *c*, Calstock§	1 7 6	⅜	¼ ⅜
6000	Relistian Consols, *c*, Gwinear	0 10 0	⅜	⅓ ⅜
1 0000	Rookhope Valley, *l*, Durham*	4 0 0	⅜	⅓ ⅜
5869	Rosewall Hill and Ransom, *t*	4 17 6	⅜	¼ ⅜
6000	Rosewarne United, *c*, *t*, Gwinear	1 10 0	—	
3000	Russell, *s-l*, Swymbridge	0 6 0	—	
5000	Silvercross,* *c*, *t*, Marazion	1 8 0	1¾	1½ 1¾
4200	Snowbrook, *s-l*, Montgomery	5 0 0	5	4½ 5
12000	South Bwadrain, *s l*, Llanbadarnfawr	0 10 0	—	
6000	South Cwmystwith, *l*, Cardiganshire.	0 10 0	2¼	1¾ 2¼
512	South Dolcoath, *c*, *t*, Redruth	12 5 0	1¾	1 1½
5000	South Great Work *l*, St. Hilary	2 14 0	—	
12000	South Lisburne, *l*, *bl*, Cardigan*	0 12 6	—	
18000	So. Rom. Gravels, *l*,*£5000 deb.15p.c.	1 10 0	⅛	⅜ ⅜
6000	South Roskear, *t*, *c*, Camborne	6 10 0	5	4 5
6000	South Tolcarne, *t*, *c*, Camborne	1 9 0	⅜	⅛ ⅜
12000	South Van,* *l*, Montgomeryshire	1 0 0	—	
3000	South Ward, *l*, Beerferris	5 0 0	1¾	⅜ 1⅛
937	South Wheal Crofty, *c*, Illogan	35 10 10	16	15 16
450	South Wh. Frances, *c*, Illogan†	58 3 9	10	8 10
432	Spearn Moor, *t*, Penzance§	45 17 9	—	
4000	St. Agnes Consols, *t**